MAY 1954

# Practical HOME ECONOMICS

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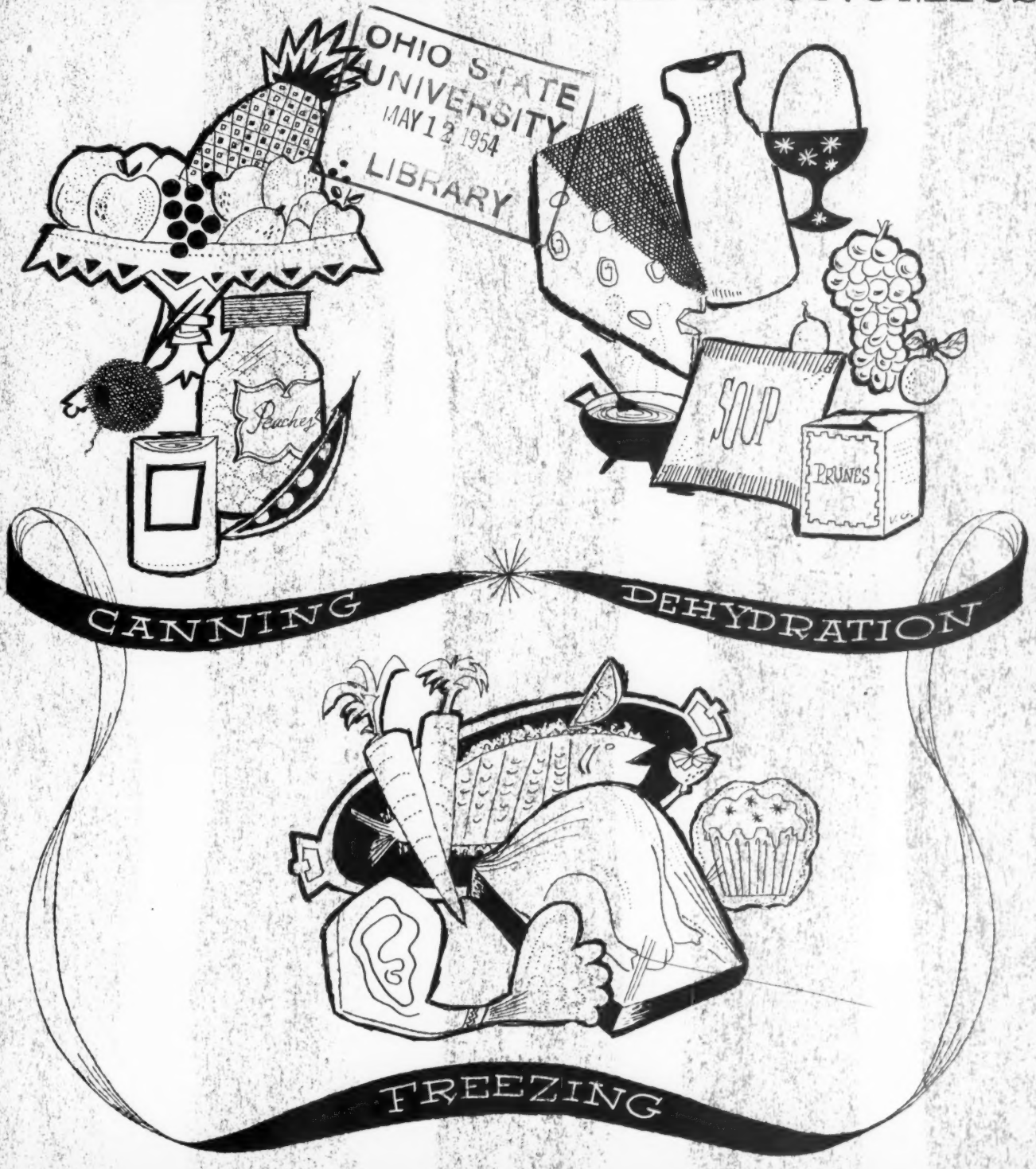


**Special Section on Food Preservation, pages 15-35**

# Salads and Salad Dressings

*An excellent project for the*

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*type of lesson*

Your students will learn that the right combination is necessary to make the perfect salad.

**MAZOLA** Salad Oil is the right choice for every type of dressing—French-Mayonnaise-Salad Dressing.

The bland, smooth flavor of this corn oil blends perfectly with any salad ingredient.

A green salad needs a Dressing with a sharp, well blended spicy flavor as in this excellent easy-to-make recipe.

## Basic French DRESSING

1 cup MAZOLA Salad Oil
*⅓ to ½ cup vinegar
1 to 3 tablespoons sugar
1½ teaspoons salt
½ teaspoon paprika
½ teaspoon dry mustard
1 clove garlic

Measure all ingredients into a bottle or jar. Cover tightly and shake well. Chill several hours, then remove garlic. Shake thoroughly before serving. Makes 1¼ to 1½ cups.

***Zesty Dressing:*** Follow above recipe. Add 2 tablespoons catsup, 1 teaspoon Worcestershire sauce and 1 tablespoon lemon juice.

*Lemon juice may be substituted for all or part of the vinegar, if desired.

***Send coupon on page 31 to Jane Ashley for teaching unit "Salads and Dressings." Turn to coupon Service Section and do it now!**

Here is a fine example of the perfect type of Dressing for a Fruit Salad—just the right degree of sweetness and a slightly thick consistency that makes it cling to the fruit.

## Celery Seed DRESSING

1 teaspoon salt
1 teaspoon dry mustard
1 teaspoon paprika
1 teaspoon celery seed
½ cup KARO Syrup, Red Label
¼ to ⅓ cup vinegar
1 cup MAZOLA Salad Oil
1 tablespoon grated onion

Place all ingredients in a small bowl. Beat with rotary beater until well blended and thickened. Place in covered container. Chill several hours. Shake before serving. Makes about 1¾ cups.

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VOL. XXXII NO. 9 MAY 1954

# Practical HOME ECONOMICS

THE MAGAZINE FOR TEACHERS
33 WEST 42ND STREET NEW YORK 36, N. Y.

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PRACTICAL HOME ECONOMICS is one of the SCHOLASTIC MAGAZINES. These include three teacher publications (Practical Home Economics, Scholastic Teacher, and Scholastic Coach; and the following classroom publications: NewsTime, issued weekly for grades 4, 5; Junior Scholastic, issued weekly for grades 6, 7, 8; World Week, issued weekly for grades 8, 9, 10; Senior Scholastic, issued weekly for grades 10, 11, 12; Practical English, issued weekly for all high school grades; Literary Cavalcade, issued monthly for all high school grades.

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# Practicalities

THE chief purpose of this magazine has always been to serve as a medium for the exchange of home economics ideas. Through its monthly articles home economists share new teaching methods, describe classroom and community projects, and report on research. These articles have special usefulness because of their up-to-the-minute quality, and because of the wide cross-section of home economics interests they represent.

It should be gratifying to our contributors, as it is to the editors, to see how frequently articles from this magazine are listed as references in special publications and in textbooks. We are particularly pleased to find over 80 articles from *Practical* included as references in the newly revised text, *Homemaking Education in the High School*, by Maude Williamson and Mary S. Lyle.

Although we have not checked our files on these articles which were considered pertinent to *Homemaking Education in the High School*, we know that a good many of them came to us as unsolicited manuscripts. They were spontaneous contributions of home economists who had ideas they wished to share with co-workers. Some of these articles, their authors told us, were first attempts at writing for publication.

This fact is stressed as encouragement for those of you who have an urge to describe some of your teaching experiences. But perhaps you hesitate to write for publication because you do not know how to go about preparing and submitting a manuscript. Here then are some suggestions taken in part from an article which appeared in our January 1947 issue.

1. *Know for whom you are writing—*

In any group of readers there is a wide variety of interests. Teachers in all 48 states, Hawaii, Canada, and in foreign countries subscribe to *Practical*. They teach at various levels—from elementary school to university. Some are beginning teachers; others have long experience. Home demonstration agents, school lunch managers, home economics supervisors, and students also read *Practical*. Your article will probably be of specific interest to one group of these home economists, so try to "slant" your material to fit their special needs.

2. *Organize your material—*

What is the main point you wish to make? Try to present your ideas in logical order. Make sure each idea is essential for developing your main point. Have you used enough explanatory material—or too much? Can your reader follow easily from point to point?

3. *Write a good lead paragraph—*

Be sure that your first paragraph, or lead, presents a clear picture of what your article is about. It should intrigue your reader's attention and be short enough to command interest.

4. *Write clearly—*

Keep sentences short. Write clear sentences that are easily grasped. Make paragraphs short enough so that the reader won't get lost or bored. Emphasize important points. Sometimes subheads help to do this; sometimes questions and answers are effective. Select your words carefully. Use familiar terms wherever possible, but avoid trite, overworked words. Omit unessential, technical terminology.

5. *Personalize your material—*

Give your writing a warm, friendly tone. Try to make it read like informal talk. Use concrete examples wherever you can, and emphasize the problems in terms of people rather than in abstractions. Of course, this should be easy because home economics is chiefly concerned with people and their personal needs.

6. *Reread and rewrite—*

It's a rare article that is not better for cutting and rewriting. Often sentences can be improved by rewriting in half the number of words. As you reread, check your article to see that your idea develops smoothly from one sentence to the next, and from paragraph to paragraph. Summarize at appropriate points and draw the whole together with a closing paragraph. Then make a final check for accuracy of dates, names, footnotes, etc. Accuracy is essential.

7. *Observe the mechanics of preparing a manuscript—*

Just as it's more fun to grade neatly written exam papers, editors like to consider neat manuscripts. All manuscripts should be typewritten, double spaced, and on one side of the paper only. Your name and address should be on the top of the first page as well as your teaching position and any related information necessary for the by-line. Number succeeding pages in the upper right-hand corner. You should retain a carbon copy.

Photographs and charts frequently add to the presentation of the article. Black and white glossy photos are required. When mailing be sure to protect them with stiff cardboard. Each item should be labeled with your name and address and have an appropriate explanation to assist the editor in writing a caption.

Enclose a self-addressed envelope with adequate postage for the return of your manuscript in the event it is not accepted. But don't be discouraged if your manuscript is returned. Other articles on the same topic may have been accepted, or perhaps space limitations are such that the article cannot be published within a reasonable length of time. Seasonal articles should be submitted at least five months in advance.

*A last reminder*—you *should* write for your professional magazines. It is not only valuable to your own professional growth, it is important to the growth of our profession itself. We hope you'll try your hand at it.

Ruthanna Russell

# GOLDEN RULES for Cookie Baking

Crisco's basic cookie mix adapts itself to a variety of classroom projects. And students will enjoy this easy way to bake a variety of cookies. They're sure to love the results, too! For cookies baked with pure, all-vegetable Crisco are so rich and tender they just melt in your mouth.

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*Home Economics Dept., Ivorydale 17, Ohio*

### CRISCO COOKIE MIX

**6 cups sifted all-purpose flour**
**1 tablespoon salt**
**1 pound Crisco (2⅓ cups)**

Mix flour and salt in a large mixing bowl or on a large square of paper. Cut Crisco into flour with two knives or a pastry blender until pieces are about the size of peas. Store in a covered container. No refrigeration needed.

### RICH BROWNIES
**( 3 doz. )**

Stir together 1½ cups Crisco cookie mix, 1½ cups sugar, ½ tsp. baking powder. Add 3 eggs, 3 squares baking chocolate, melted, 1 tsp. vanilla. Mix thoroughly. Add ½ cup chopped nuts. Pour into 9" x 9" x 2" pan which has been rubbed with Crisco. Bake at 375° F. for 25-30 mins. Cool. Cut into 1½" squares.

### SUGAR COOKIES
**( 3-4 doz. 2" cookies )**

Stir together 2 cups Crisco cookie mix, ¾ cup sugar, 1 tsp. baking powder. Add and blend thoroughly: 1 egg, 1 tsp. vanilla. Drop dough from teaspoon into mixture of 2 tbsps. sugar and 2 tsps. cinnamon in a bowl. Shake bowl to coat. Bake at 375° F. for 10-12 mins. Cool 1 min. before removing.

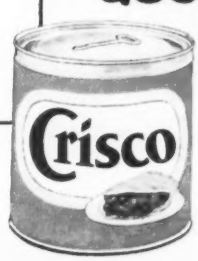
### PEANUT BUTTER CHEWS
**( 4 doz. 2" cookies )**

Stir together 2 cups Crisco cookie mix, 1 cup light brown sugar, 1 tsp. soda. Add and mix thoroughly 1 egg, ½ cup peanut butter. Chill dough. Shape into 1" balls. Place 3" apart on ungreased cookie sheet. Press crisscross with tines of fork. Bake at 375° F. for 10-12 mins. Cool 2-3 mins. before removing.

## HELPFUL HINTS FOR COOKIE BAKING

1. Place dough for drop cookies at least two inches apart on sheet to allow for spreading.
2. Use spatula to remove cookies from baking sheet while still warm.
3. After removal of cookies from baking sheet, place on cake rack to finish cooling.
4. Before cutting rolled cookies, dip cutter in flour or powdered sugar to keep edges of dough smooth.
5. Store cooled cookies properly. Keep crisp, thin cookies in jar with loose cover.
6. Keep soft cookies in air-tight container. A slice of apple or orange in jar will help keep cookies moist.

**FREE WALL CHART**—"Helpful Hints for Cookie Baking"—is available in 17" x 22" size for use as a visual classroom aid. Write to Crisco Wall Chart, Dept. C-6, Box 837, Cincinnati 1, Ohio. Or mail coupon in the Service Section.

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# NEWS NOTES . . .

AT the annual meeting of the National Education Association, to be held June 28 through July 2, in New York City, there will be a special meeting of interest to teachers of home economics.

The NEA's department of home economics will hold its meeting Monday morning, June 28, at the Hotel Astor. Dr. Morris Appell, who is with the department of education at Brooklyn College, N. Y., will discuss "The Happy Family."

### Honor for Dr. Bond

In recognition of her 25 years of leadership in home economics education, a life membership in the American Home Economics Association has been presented to Dr. Helen Judy Bond, head of the Department of Home Economics at Teachers College, Columbia University. Dr. Bond, who is an editorial advisor to *Practical Home Economics*, was also honored for her 25 years of service at Teachers College.

### The Family

A new field of concentration centering around the family and cutting across departments will be offered at Antioch College, Ohio, beginning this fall. To be called "The Family: Personality and Society," the core of field courses will be in the departments of psychology, sociology, home economics, and education. Marjorie East, associate professor of home economics at Antioch, is chairman of the new field.

### Dr. Ruth Leverton

Appointment of Dr. Ruth Leverton to the Oklahoma A and M College staff has been announced. Effective September 1954, she will serve as administrative assistant in charge of home economics research, professor of home economics, and assistant director of the agricultural experiment station.

Dr. Leverton is now professor of human nutrition at the University of Nebraska, and director of human nutrition research in the agricultural experiment station. In 1942, she was co-recipient of AHEA's Borden Award for outstanding research in applied nutrition, and in 1953 was the single recipient of the same award. She was Fulbright Professor in nutrition assigned to the Philippines in 1949-50, and is the author of the book, *Food Becomes You*, and many scientific and semi-popular articles on nutrition.

### Round Table Meeting

The first annual national conference of the Electrical Women's Round Table, Inc., will be held at the Sheraton Hotel in St. Louis, Missouri, Friday and Saturday, May 14 and 15. The two-day conference will be divided between educational workshop sessions and business meetings for officers of the various chapters of the Round Table.

### ADA Educational Director

Wilma F. Robinson, for the past seven years consultant dietitian for the Illinois Department of Public Health, has been appointed educational director of the American Dietetic Association.

A graduate of the University of Kentucky, Miss Robinson has served ADA as chairman of the nominating committee, as a member of the joint committee of the ADA and the American Hospital Association, and as a member of the dietetic internship board. She is a past president of the Ohio, Cincinnati, and Illinois Dietetic Associations.

### From Here to There—

**Elizabeth Mount** has joined the staff of the AHEA as business manager of the association and advertising and business manager of the *Journal of Home Economics*. Mrs. Mount, formerly with the Housing and Home Finance Agency, succeeds **Gertrude N. Stieber**, who resigned to accept a position with the Greist Manufacturing Co.

**Cosette D. Kane**, formerly district home economist in Houston, Texas, for the International Harvester Company, has been promoted to regional home economist for the Southwestern region with headquarters in Oklahoma City.

**Victoria Louko** has joined the home economics department of Admiral Corporation. Miss Louko formerly was with the Commonwealth Edison Company of Chicago for seven years, and prior to joining Admiral was Chicago regional home economist for Crosley.

**Geraldine Mann** has been appointed as director of the home service department of Gurney Products, Limited, Toronto, Ontario. A graduate of Washington State College, Miss Mann spent several years working with a Canadian utility company and also with a meat company.

### Dates to Remember

***MAY*** 1-8—National Baby Week
2-8—National Home Demonstration Week
9—Mother's Day

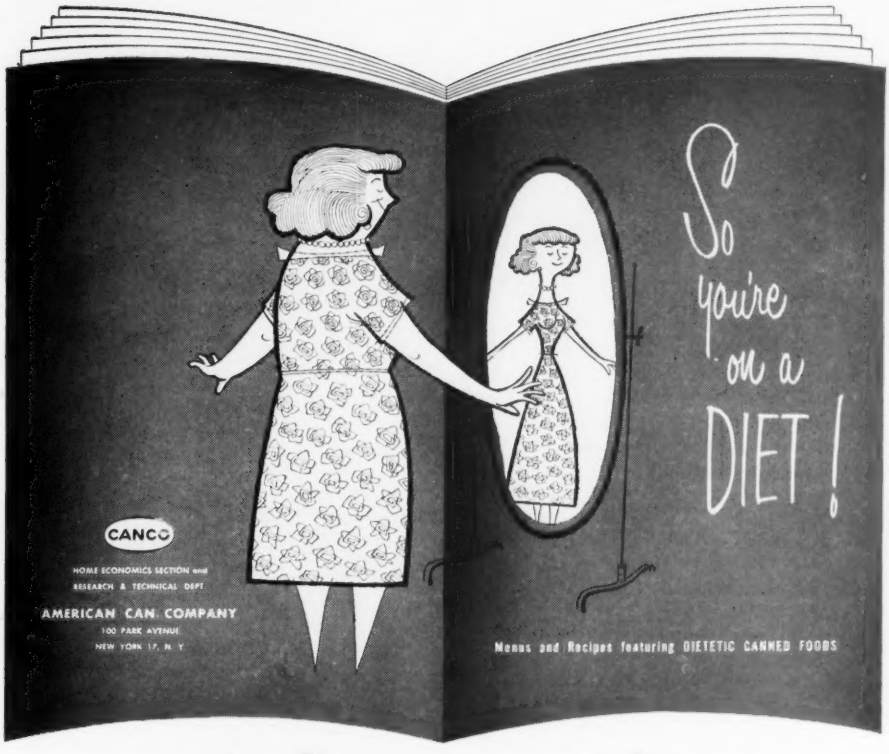
***JUNE*** 20—Father's Day
22-25—Future Homemakers of America: Southern Regional Meeting, Princess Issena Hotel, Daytona Beach, Florida; Central Regional Meeting, Michigan State College, East Lansing, Michigan
27-***JULY*** 2—National Education Association Convention, New York City
28-***JULY*** 1—Future Homemakers of America North Atlantic Regional Meeting, University of New Hampshire, Durham, New Hampshire

***JULY*** 6-9—American Home Economics Association 45th Annual Meeting, San Francisco, California
19-23—Future Homemakers of America Pacific Regional Meeting, Utah State Agricultural College, Logan, Utah

***AUGUST*** 24-26—Canadian Home Economics Association 8th Biennial Convention, Toronto, Ontario

***OCTOBER*** 10-13—National Home Demonstration Agent's Annual Meeting, Sherman Hotel, Chicago, Illinois
26-29—American Dietetic Association 37th Annual Meeting, Philadelphia, Pennsylvania

***NOVEMBER*** 16-20—American School Food Service Association Meeting, Miami Beach, Florida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Menus and Recipes featuring DIETETIC CANNED FOODS

# A free guide to good eating for dieters

• On a diabetic diet • On a low-sodium diet • On a low-calorie diet

**As you know,** millions of Americans are diet-conscious today. It is important that dieting be done safely and sensibly—under the supervision of a physician, dietitian or nurse. This unique booklet contains a wealth of helpful, *authentic* information in an easy-to-follow form.

### Carefully calculated diets

Hospital dietitians, home economists and members of the Research and Technical Department of American Can Company worked together to develop carefully calculated diets which bear the Seal of Acceptance of the Council on Foods and Nutrition of the American Medical Association.

You'll find in the booklet, master meal patterns with food groups and nutritive values. In line with the most up-to-date research on these diets, food exchange lists are included to enable users to plan their own diets in daily meals. Dieters are shown how to have these meals interesting and well balanced whether eating at home, carrying a lunch or ordering foods in a restaurant.

### Safe and sensible

This booklet uses more than *seventy* dietetic canned foods, plus a host of conventionally canned products and speedy packaged items that will make dieting simple, easy—and fun! Recipes, serving ideas and a shopping list make this booklet an excellent guide to dieting the safe and sensible way.

Send for your free copy today. See the coupon which appears in the regular coupon section in this magazine.

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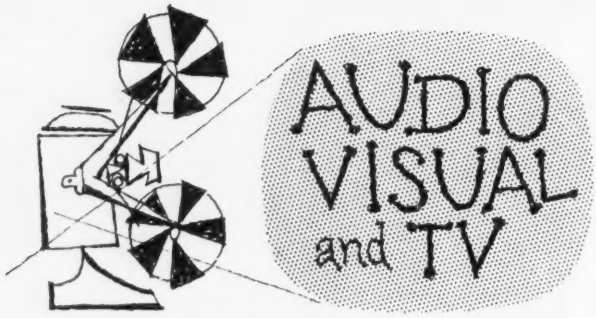



THE Committee on Family Financial Security Education is currently offering to interested teachers and educators a series of three playlets on personal and family money management that are adaptable for school assembly, group, radio, or television use.

The three playlets titled, *Let the Dollar Help, Budget or Bust,* and *Be Sure! Insure!,* were developed and written by teachers who have participated in summer workshops on family finance. These are held at eight leading universities in various parts of the country each year.

*Let the Dollar Help* is a 15-minute presentation of special interest to seventh graders. Designed for assembly programs, *Budget or Bust* tells the amusing story of a family who is constantly financially embarrassed, and what they did to solve the problem. *Be Sure! Insure!* is a humorous story that shows the family needs for various types of insurance protection.

The three playlets may be obtained free of charge by writing to the Committee on Family Financial Security Education, 488 Madison Avenue, New York 22, New York.

#### Color Films Ready

Two new color films are now available for early bookings. One is a 20-minute documentary film entitled, *The Wind and the Fury.* This shows the dreadful effects that windstorms have on life and property. The films were taken during or immediately after last year's tragic tornadoes in Waco, Texas; Columbus, Georgia; Worcester, Massachusetts; and Flint, Michigan. An outstanding feature of the film is that most of the narration consists of actual voices of the survivors. It is these voices edited to provide the narration which give the film true-to-life quality.

The second film contains fire safety advice for baby sitters. Entitled, *Heroine of the Week,* the film tells a dramatic story of a 12-year old girl, who by her correct thinking and prompt action saved two children when fire broke out in the house where she was caring for them.

Both films may be borrowed or purchased from the Film Library of the National Board of Fire Underwriters, Bureau of Communication Research, Inc., 13 East 37th Street, New York 16, New York.

#### Clothing Helps

A filmstrip series on teen-age clothing has been correlated with the book, *How You Look and Dress,* by Byrta Carson. Available in 2 sets, these eight filmstrips give important points on selection and care of clothing. The first set consisting of 4 filmstrips is available for $25. Topics included in this set are: *Grooming, Care of Your Clothes, The Right Clothes for You,* and *Color in Your Clothes.* The second set of 4 filmstrips costs $20. It includes *Sewing Equipment, Sewing by Hand,* and *Hints on Making a Dress, Part 1 and 2.* The illustration on this page was taken from the filmstrip *Hints on Making a Dress.* Send orders to McGraw-Hill Book Co., Text-Film Department, 330 West 42nd Street, New York 36, New York.

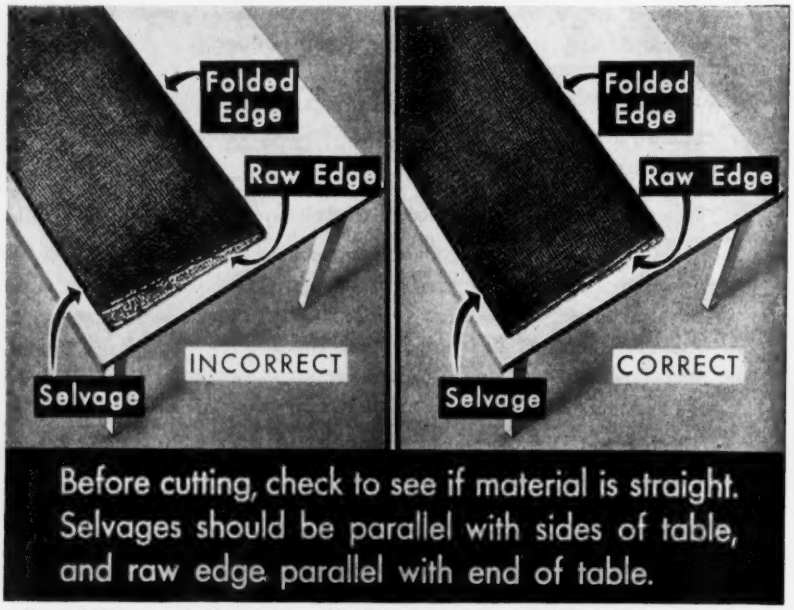
#### Better Housekeeping

Produced primarily for home economics classes in high schools and colleges, a new educational movie entitled *Beauty and the Bride* is now being distributed for the Johnson Wax Company. The script tells the story of a young bride who learns about new and better methods of home care with wax products. Included in the film are interesting scenes of the Johnson Wax administration and research center which was designed by Frank Lloyd Wright. The film is available free of charge from Modern Talking Pictures Service, Inc., 45 Rockefeller Plaza, New York, New York.

#### Films of Interest

Two natural color films which show the steps in freezing strawberries, peaches, broccoli, and corn on the cob have been prepared by the Bureau of Human Nutrition and Home Economics. Entitled *Freezing Fruits and Vegetables* the filmstrips sell for $4 each. Order from Photo Lab, Inc., 3825 Georgia Avenue, NW, Washington 11, D. C.

*Whenever You Eat* depicts the relationship between food and good living. 16 mm., color, National Dairy Council, Chicago, Illinois, or may be borrowed from Association Films, 79 East Adams, Chicago 3, Illinois.


Folded Edge
Raw Edge
INCORRECT
Selvage
Folded Edge
Raw Edge
CORRECT
Selvage
Before cutting, check to see if material is straight. Selvages should be parallel with sides of table, and raw edge parallel with end of table.

**One of 47 frames in the McGraw-Hill filmstrip, *Hints on Making a Dress, Part One.***

# If It's *Frozen* ...It's *Fresh*
# The modern way to preserve foods
# is the Hotpoint way!

Food freezing is the modern way to better meals. Foods look better, taste better, and cook faster when preserved in the new Hotpoint Freezer. Tomorrow's homemakers will welcome the opportunity to learn how to prepare and package foods for freezing; and to study the use and care of this increasingly important piece of homemaking equipment . . . the Hotpoint Food Freezer.

## Hotpoint suggests an easy, practical project of special class interest!

Freeze a complete meal now and serve it for an end-of-the-year party. Here's a sample menu that you can adjust to your needs.

*Citrus Fruit Cup*
*Chicken a la King on Cornbread*
*Cut Green Beans*
*Ice Cream* *Assorted Cookies*

Peel and section oranges and grapefruit. Prepare pineapple chunks and place in freezer container. Cover with light syrup and seal tightly. Bake the cornbread, cool, and wrap.

Place the cooled Chicken a la King in a glass or plastic freezer container and seal. Blanch the beans, chill, and package in a lined carton. Buy or make ice cream. Package an assortment of your favorite cookies. Place meal in Freezer.

For party time, remove meal. Partially thaw fruit and place in sherbets. Heat Chicken a la King in sauce pan without thawing. Place cornbread on baking sheet and heat in 275° oven about 30 minutes. Add a small amount of boiling water to frozen beans and cook gently 5-6 minutes.

And there you have it—a meal from Freezer to table in just 30 minutes.

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BEGIN WHERE COOKING KETTLES AND COFFEE URNS LEAVE OFF

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The answer is "More centralized food production," saving the expense of duplicating food production setups in a number of locations.

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# BOOKS IN REVIEW

**Homemaking Education in the High School**

By Maude Williamson and Mary S. Lyle
*Appleton-Century Crofts, Inc., New York*
*Price $3.75 Pp. 423 1954 Revised*

"Homemaking education should always be flexible and adaptable. It must continually adjust to changing conditions if it is to be effective," write the authors in the preface to this well-known home economics education text. "But it must keep its basic philosophy intact; namely, that its central purpose is to develop persons capable of shaping for themselves a satisfying home and family life."

These words sum up the spirit with which this newly revised edition has been planned. The authors help the young teacher to recognize changing conditions of modern life and then to develop a philosophy of homemaking education with a flexible approach.

After the first chapters on the overall philosophy of homemaking education, the authors discuss curriculum building, ways of guiding pupil development, home experiences, homemaking education for boys and adults, and evaluation. Emphasis is placed on the use of audio-visual aids, and one chapter specifically discusses ways of using visual aids and gives criteria for selection. The authors also consider extra-classroom responsibilities of the home economics teacher, and aspects of the teacher's life outside of school.

At the end of each chapter are problems for discussion as well as extensive reference lists. An unusual number of the references given are articles which have appeared in this magazine. —R. R.

**Fashion Accessories**
**A Nontextile Work Manual**

By Karen R. Gillespie
*Prentice-Hall, Inc., New York*
*Price $3.40 Pp. 156 1954 Revised*

This practical work manual, now in its second edition, will be welcome in studies of nontextile fashion accessories — leather, shoes, gloves, handbags, luggage, furs, jewelry, and cosmetics. It has been designed to outline the essentials of fashion accessories, and to provide the student with a working background of definitions and technical information. In addition to a presentation of the basic information, there are many suggested projects for classroom study, as well as bibliographies for further reading, and such helpful information as digests of Federal regulations on certain products such as furs and cosmetics. —J. de G.

**Choice Hooked Rugs**

By Stella Hay Rex
*Prentice-Hall, Inc., New York*
*Price $6.00 Pp. 240 1953*

If you are one of the many who find pleasure in making hooked rugs, or think that you would like to learn how, this can be a practical and inspirational book. It explains how something new and lovely can be made out of old things.

Twelve chapters illustrated with line drawings and photographs tell

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of design and its adaptation and transfer to a burlap ground; also about color and dyeing. Other chapters are concerned with technique and equipment for beginners, what men are doing in this line, and the commercial procedures for selling the finished product. There is a teacher's manual for use in group teaching, and a bibliography which lists the small number of books on the subject.

—*Reviewed by* JESSIE CAPLAN

**World Furniture Treasures**

By Lester Margon
*Rheinhold Publishing Corp., New York*
*Price $7.50 Pp. 186 1954*

An overall view of the furniture treasures of yesterday and today have been successfully gathered and presented by the author. An easy transition from one period style to another distinguishes this book and provides a continuity that is not often present in books of this type.

Of great interest and value is the second part of this book which features 53 measured drawings of representative styles of furniture. Accompanied by a photograph of the piece and a brief description, each drawing shows the construction clearly and accurately. —F.S.

**The Low Sodium Cook Book**

By Alma Smith Payne and Dorothy Callahan
*Little, Brown and Company, Boston*
*Price $4.00 Pp. 442 1953*

Low sodium diets have become increasingly important in the treatment of certain diseases of the heart, kidneys, and liver, and complications of pregnancy. This authoritative book will help the individual who has been advised by his doctor to restrict his sodium intake to plan interesting meals.

The book contains many recipes for low sodium or low salt diets, as well as valuable discussions of what foods are generally acceptable, and how they may be used in planning a varied menu. Attention is given to such details as the effect that processing of foods may have on increasing sodium content. Tables showing the sodium content of common foods are presented. There is also a discussion of how the low sodium diet may be adapted to a low fat or a low cholesterol diet.

**Editor's Note:** A special paperbound edition of *The Low Sodium Cook Book* has been prepared by the Sunkist Growers. Priced at $1.25, it may be obtained from Sunkist, Box 2706, Terminal Annex, Los Angeles 54, California. —J. de G.

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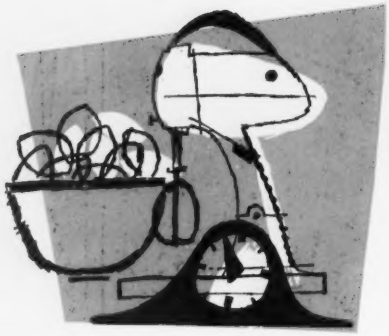


## Penn State's course on

# Lecture-Demonstration Techniques

By GLORIA A. BEPPLER

DURING the past few years about twenty-four girls have annually completed a course in lecture demonstration techniques at the Pennsylvania State University. This may seem a very small number, but until recently there were few colleges that gave a complete course of training in demonstration work. Usually this was partially covered in food and nutrition courses.

Graduate home economists who have gone into teaching, commercial demonstration work or extension service without background courses in lecture demonstration techniques have found it necessary to learn the hard way or go through long training periods offered by prospective employers. But recent graduates who have had at least one background course in demonstration work have begun new jobs with confidence. They have also gained more from any introductory training courses offered by employers.

At Penn State future home economists are trained by practical experience in classroom work and also by watching various specialists give guest demonstrations. During the first weeks in the course the class is introduced to the lecture demonstration by the instructor, Mary Brown Allgood, who was a demonstrator herself for many years. Through her demonstrations she makes students understand that material which is presented visually as well as audibly is more interesting and makes a more lasting impression. She emphasizes that the purposes of a lecture demonstration are to promote a product or a service, or to educate the public in the use or value of a product. These may often be combined in one demonstration.

*Miss Beppler is a senior in home economics and journalism at the Pennsylvania State University. This article is based on her experiences while enrolled in the lecture demonstration course.*

**Students, Shirley Stuckey and Eleanor Ungethuem, discuss demonstration plans with instructor, Mary Brown Allgood.**

This lecture demonstration course, which is called Commercial Consumer Service, is offered only to senior students in the College of Home Economics. Before scheduling this course, students must have completed at least one course in household equipment and nine credits of food and nutrition.

After students have become somewhat familiar with the lecture-demonstration techniques they begin to practice these techniques before the class. Each student gives four demonstrations and assists with a fifth during the semester. These are 15, 30, 45, and 60 minutes in length and are given in that sequence. The last demonstration must be planned and carried out with an assistant.

At least two of the demonstrations given by each student must include food. The food may be used to show the use of a piece of equipment or to teach a method of food preparation. For the other two demonstrations, the student selects the topic. Many students use the 15-minute period to introduce a piece of equipment as a mixer, blender, refrigerator, or range to the group. In a later demonstration the girl will illustrate the use and care of the appliance.

Students who intend to enter the extension service plan and give demonstrations of the type they will later give on the job. For example, during this past semester, one girl demonstrated the bathing of a baby. She used a life-size doll because it was too cold a day to permit taking the home management house baby away from home. Another girl showed how to use and adjust the sewing machine. Still another chose a

*(Continued on page 46)*

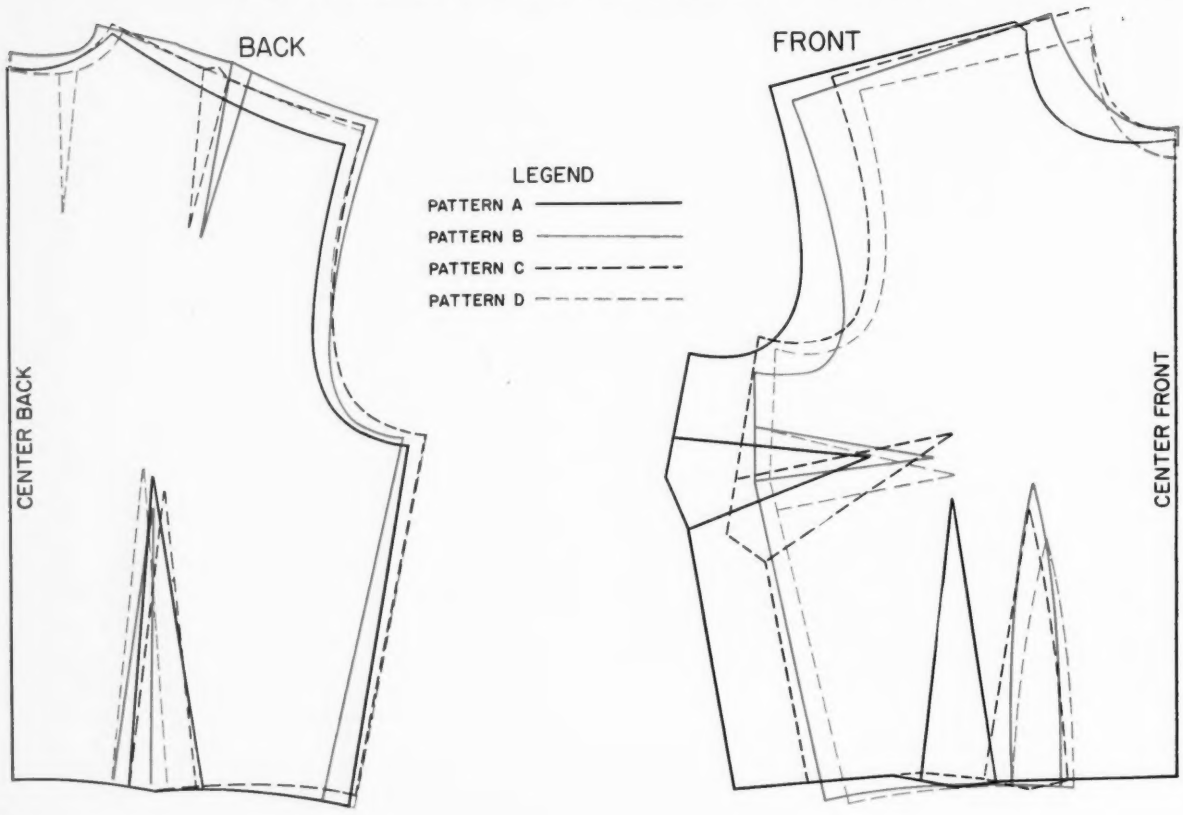
Demonstrations are given before classmates who constructively criticize presentations and suggest improvement.

Another student assists in the final demonstration. Here an assistant decides which bowl is the one that fits the mixer.

After the demonstrations have been completed everyone relaxes and enjoys the food that was prepared.

Members of the class and Miss Allgood inspect the finished products. They criticize the display and sample the food.

**COMPARISON OF FOUR COMMERCIAL PATTERNS**




# Fitting Problems of Teen-Agers

By EDITH F. BARTOE

**Chart 1—Measurements of Four Commercial Patterns** *(in inches)*

| | Pattern A | | | | Pattern B | | | | Pattern C | | | | Pattern D | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | 10 | 12 | 14 | 16 | 10 | 12 | 14 | 16 | 10 | 12 | 14 | 16 | 10 | 12 | 14 | 16 |
| Bust | 28 | 30 | 32 | 34 | 28 | 30 | 32 | 34 | 28 | 30 | 32 | 34 | 28 | 30 | 32 | 34 |
| Waist | 24 | 25 | 26 | 28 | 24 | 25 | 26 | 28 | 24 | 25 | 26 | 28 | 24 | 25 | 26 | 28 |
| Hip | 31 | 33 | 35 | 37 | 31 | 33 | 35 | 37 | 31 | 33 | 35 | 37 | 31 | 33 | 35 | 37 |
| Length Back Bodice | 14 7/8 | 15 1/4 | 15 5/8 | 16 | 15 | 15 1/4 | 15 1/2 | 15 3/4 | 14 5/8 | 15 | 15 3/8 | 15 3/4 | 14 3/4 | 15 | 15 1/4 | 15 1/2 |
| Finished Length Back Dress | 42 1/8 | 43 1/4 | 44 1/8 | 45 | 43 | 43 1/2 | 44 | 44 1/2 | 41 1/2 | 42 1/2 | 43 1/4 | 44 | 41 | 42 | 42 3/4 | 43 1/2 |

ONE of the problems frequently encountered in junior high school clothing classes is adjustment for rapid growth during the time a garment is being made. Garments which become too short-waisted are difficult to adjust.

To determine how widespread this problem might be, questionnaires were sent to 30 teachers of home economics. This questionnaire asked if the teacher encountered the problem of pupils growing so rapidly that their dresses became too short-waisted before they were finished. If the answer was "yes," the teachers were asked to list the remedies they had found successful. They were also asked if they had any other clothing problem for which they had not yet found a solution.

Tabulation of the 22 replies shows that about one third of the teachers had this fitting problem. Most of the teachers tried to avoid the problem rather than correct it. One way to avoid it is the limitation of sewing projects to making "separates" or two-piece garments. Another way is a concentration of time on construction so that the garment is completed in a relatively short period.

Two corrective measures were given. Two teachers stated that girls were measured and then one inch was added to the length of the bodice. The second method was the insertion of a wide belt. Of course, there are some pattern styles, such as the princess style, which would not lend themselves easily to this.

Several other problems were listed in answer to the second part of the questionnaire. Eight teachers (37 per cent) mentioned no problems. There were, however, 12 problems given. Those marked (*) were listed by more than one.

1. Students cut up the "fold."
2. Need for extra length in skirt patterns.*
3. Students had difficulty with proper insertion of zippers.
4. Getting students to use pattern guide.
5. Students unable to furnish material.
6. Girls forget to bring their sewing.
7. Students tire of project before completion.
8. Discipline problems of girls who finish project early.
9. Limited facilites.*
10. Classes too large for individual attention.*
11. Class periods too short, too few.*
12. Lack of interest by both student and mother for any unit which does not terminate in a material product.

Included in this list are problems pertinent to clothing classes. Highly important also are the last five which are of a more general nature and apply to home economics courses as a whole. Many of these problems would be interesting to follow up.

### A Study of Patterns

Because fitting clothing for the teen-age girl is of immediate interest, attention has been turned to a comparison of commercial patterns. Pattern waist measurements seem to differ. Girls have taken their measurements, have bought a pattern of corresponding size, and then often found it did not fit. Many times the remark has been made that a particular commercial pattern "runs large" or "runs small." Just what is the truth?

Producers of commercial patterns have planned several different types of patterns for various figure types. These include: child, teen, junior, misses, women, and half-size. The determining measurements for these types are height, chest, waist, and hip. Many students ignore the first of these measurements when purchasing a pattern.

In order to make a comparison, teen-age patterns, size 14, and representing four of the widely used commercial patterns were purchased. Attention was given to the style so that dart placement and other features were similar. The bodices only were compared.

Three methods of comparison were used:

1. The bodice fronts of all four patterns were superimposed flat one upon the other with all center fronts on one line. The outlines were compared. The bodice backs were treated in the same manner in all comparisons. (See illustrations on opposite page.)

2. Duplicate fronts and backs were made of tissue paper of different colors so that the outlines hidden by the opaque copies could be evident.

3. A second set of duplicates was made of tissue paper. The darts of these were carefully pinned closed. The side and shoulder seams were pinned together on the seam lines as for pin-fiitting.

Results of these comparisons of the flat patterns, both opaque and transparent, show that there is wide variation in the width of the bodice fronts. The duplicates which were pinned as for fitting showed as wide a variation on the bodice fronts as the flat patterns.

The bodice backs were more uniform in width than the fronts. This shows very little compensation for differences of the fronts. In other words, a narrow front does not have a correspondingly wider back.

The charts below reveal some very interesting facts. Chart 1 shows that the bust, hip, and waist measurements listed on the pat-

*(Concluded on page 44)*

*Mrs. Bartoe teaches at the Upper Southampton-Warminster High School, Southampton, Pa. The study reported in this article was conducted while she was studying for her Master's degree at Temple University, Philadelphia, Pa.*

**Chart 2—Comparative Lengths—Bodice** *(In Inches)*

| Size | 10 | 12 | 14 | 16 |
|---|---|---|---|---|
| Pattern A | 14 7/8 | 15 1/4 | 15 5/8 | 16 |
| Pattern B | 15 | 15 1/4 | 15 1/2 | 15 3/4 |
| Pattern C | 14 5/8 | 15 | 15 3/8 | 15 3/4 |
| Pattern D | 14 3/4 | 15 | 15 1/4 | 15 1/2 |
| Maximum Difference | 3/8 | 1/4 | 3/8 | 1/2 |

**Chart 3—Comparative Lengths—Dress** *(In Inches)*

| Size | 10 | 12 | 14 | 16 |
|---|---|---|---|---|
| Pattern A | 42 1/8 | 43 1/4 | 44 1/8 | 45 |
| Pattern B | 43 | 43 1/2 | 44 | 44 1/2 |
| Pattern C | 41 1/2 | 42 1/2 | 43 1/4 | 44 |
| Pattern D | 41 | 42 | 42 3/4 | 43 1/2 |
| Maximum Difference | 2 | 1 1/2 | 1 3/8 | 1 1/2 |

# Flower Arrangements

By HELEN STAGER POULSEN

1. Flowers and containers should be in scale . . .

2. Use shrubs that have small blooms . . .

## *Quickie 9: Miniatures*

**Here are suggestions for the teacher who has been looking for arrangements which . . . can be done by an entire class at one time . . . take but a small amount of space . . . use only a few flowers . . . and are enjoyed by many age groups.**

1. For true miniatures the containers should not be more than two inches wide or high and the arrangement itself should not be over seven inches in height. Flowers and containers should be kept in scale and as in any other arrangement the size, shape, texture, and color of the flowers should harmonize with the container. In this first example the rimmed base of an electric light bulb was utilized as a holder for the small branches of the tea shrub. Any small, undecorated article that will hold water or sand can be used as a container, so save bottle and jar tops, caps, or lids. Also useful are toy dishes, salt shakers, sea shells, and even walnut shells. Small candy boxes or corsage boxes can make excellent shadow boxes for display or exhibit purposes.

2. Bits of Scotch broom placed in a tall bottle top make an attractive miniature arrangement. Here a shallow basket serves as the shadow box.

3. Miniatures can be a surprise gift for trays or bedside tables. A patient in a hospital would be delighted with this arrangement which uses a sea shell for the container. A tiny split-bamboo mat is used for background. Miniature arrangements also make attractive place cards. It is fun to make individual arrangements for each guest that repeat or harmonize with the table centerpiece. Miniatures are especially appropriate for card-table dining.

4. The tiny flowers on weeds seem designed just for miniatures. These have been placed in damp sand in a salt dish. A jar lid is used for a base, and the background is a decorative piece that originally went around a flower pot.

5. Even three-year-olds can arrange miniatures. Because this is an activity many children enjoy a baby-sitter might include a few miniature containers in her baby-sitter kit. The young flower arranger pictured here is Karla Roberson of Oakland, California, daughter of a home economist in business.

3. Miniatures can be surprise gifts . . .

4. Use weeds . . .

5. Miniature arrangements appeal to all ages . . .

Photo courtesy United Fresh Fruit & Vegetable Ass.

# A SPECIAL SECTION ON FOOD PRESERVATION

***with up-to-date information on canning, freezing, dehydration, and refrigerator and pantry shelf storage.***

# MODERN FOOD PROCESSING

THE food technologist is interested in every aspect of food, from its production in the field to its ultimate consumption by the population. In the past, producer and consumer were often one and the same. But since the Industrial Revolution there has been a gradual population shift from rural to urban areas. The necessity of feeding populations far removed from the land has resulted in the rise of the food industries whose aim it is to produce foods and food products that resemble fresh foods.

These changes have brought increasing importance to that area of food technology that is concerned with the processing of foods, especially in relation to their preservation from spoilage.

At first the only reason for processing food was that of preservation, in order to permit a continuous flow of foods to the table in spite of their seasonal production, and to permit the transport of foods from place to place without deterioration. Among the more common preservative techniques were salting, pickling, smoking, and drying. The product when eaten was often different from the fresh food and usually inferior in quality. Now the producer has centered his attention upon the production of foods that are better in nutritional quality, flavor, color, and texture, and foods of convenience.

Dehydration, freezing, and canning are today the chief methods of preserving foods, but during the past ten years there have been tremendous developments in new processing and preservation techniques. Before looking into some of these new and revolutionary developments in the preservation of food, let us first examine some of the notable advances made in the fields of dehydration, freezing, and canning.

*This article is based on a talk given by Dr. Sherman at the 7th annual School Food Service Association Convention last fall. Dr. Sherman is assistant professor of biochemistry of nutrition at the Massachusetts Institute of Technology, Cambridge, Massachusetts. This paper is contribution No. 195 from the Department of Food Technology, of M.I.T.*

## DEHYDRATION

The preservation of foods by removal of moisture dates back to prehistoric times when man first dried his foods by the heat of the sun. Salted dried fish was the first product ever exported by the American colonists. There are records dating back to the thirteenth century indicating that milk was dried for future use. Even today, on our west coast, the sun-drying of fruit is an important aspect of the dehydration industry. During the war, because of military demands, dehydrated foods became very popular. However, this popularity was short-lived because there developed many unsolved problems of palatability, reconstitution, and storage. The reconstituted product rarely, if ever, resembled the original product in taste or nutritional value.

Most dehydrated foods were, until recently, prepared by drum or spray drying. In the former method the material is placed on the outer surface of a revolving, internally heated drum. When the material is dried it is scraped from the drum. In spray drying the material is forced through a special nozzle as a mist into a heated chamber, and dried particles collect at the bottom of the chamber. This process is fairly expensive but it yields a product of higher quality than the drum-dried product. Lower temperatures are involved in spray-drying.

During the past decade the development of high vacuum techniques has been the most significant advance in the dehydration industry. This type of dehydration removes the necessity of high temperatures and lessens the contact time between the product and air. Both heat and air have, in the past, limited the success of dehydration.

More recently lyophilization or "freeze drying" has done much to improve the quality of dehydrated foods. This technique has been most successful with liquids, such as fruit juices, coffee, and whole eggs. It combines the advantages of high vacuum dehydration and freezing. The product is first frozen and then subjected to a high vacuum, during which time the ice that had formed sublimes. In this way little heat comes in contact with the product. Pioneer work in this field was conducted in the Food Technology Laboratories at the Massachusetts Institute of Technology during World War II, culminating in the laboratory production of the first successful orange juice powder.

In recent years there has been a swing back to the use of dehydrated foods. The public is demanding a good product, and the dehydration industry is concentrating on producing good quality items to meet competition. Let us take for example the increased use of dried whole eggs, especially in the manufacture of packaged pancake, waffle, and cake mixes. Its use in these products had to await the development of a good egg powder, one that would withstand storage hazards without turning brown. This browning reaction, which has always been a source of trouble to the food processor, is due primarily to the interaction of free amino groups and sugar. Recently, experiments have shown that if glucose is removed from the egg prior to drying the browning reaction does not occur. Treatment of the egg for a few minutes with the enzyme glucose oxidase converts the sugar to gluconic acid which does not pro-

By HENRY SHERMAN

duce the browning reaction. The enzyme system also removes small amounts of oxygen which often causes the development of off-flavors.

The production and marketing of acceptable dehydrated products, especially fruit powders, will also be aided by recent developments in packaging. It is now possible to seal the product in a hermetic container along with a sufficient quantity of desiccant, such as silica gel. The desiccant is enclosed in a sift-proof, moisture-permeable package which absorbs excess moisture. By means of this "in package" desiccation, the producer can reduce drying time by several hours, for he can remove the product from the dryer when it has a moisture content of from three to five per cent and allow the desiccant to finish the job.

Other investigators have found that activated charcoal, enclosed in small perforated cellophane bags, will absorb unpleasant odors that develop even when foods are sealed and protected from moisture. This technique has worked successfully not only in dehydrated foods but in moisture-sensitive products such as potato chips, nuts, and candies.

## FREEZING

The use of coldness for the preservation of food is age-old, but only in recent years has great progress been made in its technological application to foods. Up until 1930, the volume of frozen foods was negligible, consisting principally of fish, poultry, meats, and a few fruits. Two developments in the early thirties, blanching and quick-freezing, stimulated expansion of the frozen food market. Quick-freezing permits formation of small ice crystals which do not injure the cells. Under slow freezing large ice crystals are formed which damage walls of food cells thus destroying texture and flavor.

The two most recent technological developments in the food freezing field are dehydro-freezing and the recovery of volatile oils during concentration. We have already said a few words about dehydro-freezing. The process is characterized by a high degree of retention of fresh product characteristics, ease of utilization, and decreased transportation and storage costs. It consists of preparing the food as for conventional freezing, inactivating the enzymes by blanching, reducing the weight and volume about 50 per cent in an atmospheric drier, packaging, and freezing. This process has been applied successfully to many fruits and vegetables. Quality is usually very good in this type of product, for the manufacturer of frozen foods has finally realized that freezing is not a substitute for quality.

The conventional method for preparing frozen citrus concentrates involved an over-concentration and then a cut-back by addition of single strength juice prior to freezing. The newly developed process strips the aroma from the fresh juice and concentrates it to an essence, about 150 times. The stripped juice is concentrated, but before it is frozen the essence is reincorporated to yield a product with the aroma and taste of fresh juice. Incidentally, these essences have found uses in areas outside the freezing field. They are being used as flavorings in confections, syrups, ice creams, and beverages. One can now recover the volatile oils lost during the manufacture of preserves and in this way one can capture many desirable flavors that are not present in fresh fruits but that develop in cooking.

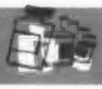
In recent years there has been an increased demand for frozen precooked foods, not only in the home but in restaurants, airlines, and railroads. The idea of preparing meals in quantity and then freezing for future use is intriguing. Until recently only a few specialties were precooked and frozen. However, at present, the number of foods in this category is great, including waffles, poultry, soups, hors d'oeuvres, bakery products, meats, vegetables, and seafoods.

Efforts are continually being made to improve these products and to make them resemble "home-cooked" foods. Sauces and gravies that were used with frozen cooked poultry and meat often separated into two layers and had a curdled appearance. It was later demonstrated that if the sauces were thickened with rice flour instead of ordinary flour a stable product could be obtained.

The preparation of inexpensive frozen precooked poultry and pork products is now possible since rancidity problems have been overcome. The addition of anti-oxidants during cooking results in food that has a longer storage life. Such products can be inexpensive yet acceptable, for the manufacturer can now use both malformed birds by removing the meat from the bone, and older birds by proper cooking and "tenderizing."

Frozen precooked foods have a good opportunity to make significant strides, for they offer the consumer speed and ease of utilization. Perhaps the only serious drawback to frozen precooked foods is the difficulty and time involved in thawing. However, this is not so serious as it may seem for electronic equipment is available that can thaw and properly heat a frozen precooked meal in less than a minute.

## CANNING



Preservation by canning implies destruction of spoilage organisms by heat and protection of the food against contamination by sealing in air-tight containers. The first containers used by Nicolas Appert in 1810 were special glass bottles. Later that year Peter Durand introduced a tin-coated iron can, and with this modern canning began. At first the cans were made from hot-rolled sheet steel dipped in molten tin. The introduction of cold-reduced plate in the early twenties increased corrosion resistance and extended the shelf life of acid fruit products. More recently tin has been applied electrolytically in very thin coatings to steel plate. This development has reduced the amount of tin in a can from 40 to two per cent without adverse effects on quality. Except for our most corrosive food prod-

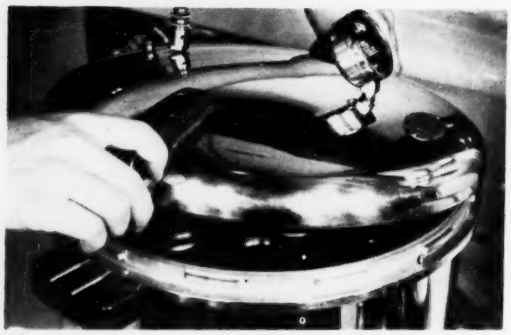
*(Continued on page 28)*

**1** Thoroughly wash and drain fresh green beans. Trim ends, remove any strings, and cut or break into desired shapes. Cover beans with boiling water and boil for three minutes.

**2** Fill jars, adding 1 teaspoon salt and boiling water to cover beans. Leave ½ inch head space. Wipe top of jar and screw self-sealing lid on tightly.

**3** Put jars into steam pressure canner which contains 2 or 3 inches hot water, or amount suggested by manufacturer.

Photos courtesy Bail Brothers Co



**4** Place canner over heat; lock cover. Leave petcock open until steam escapes 10 minutes. Close petcock; cook 25 minutes at 10 pounds pressure.

**5** Let pressure fall to zero. Wait 2 minutes then open petcock and remove cover. Remove jars, do not tighten bands. Stand jars several inches apart, out of a draft; cool about 12 hours.

**6** Remove bands and test seal by pressing center of lid. Jar is sealed if dome is down. Label and store in a dry, dark, cool place.

# HOME CANNING

A PLENTIFUL supply of home-canned foods can do much to ease family meal-planning problems. With a variety of high-quality canned foods the homemaker can brighten everyday meals throughout the year, and she is always prepared for the arrival of unexpected guests. The economy involved is another very real advantage — especially if the family produces some of its own food or if it has easy access to fresh foods when they are plentiful and attractively priced.

In canning, food spoilage is prevented by the application of heat which destroys enzymes and microorganisms such as yeast, molds, and bacteria. Further contamination is prevented by sealing the food in sterile, air-tight containers. Enzyme activity, yeasts, and molds are effectively destroyed by heating to boiling temperatures for a few minutes. But many bacteria withstand sueh treatment and can only be destroyed by longer heat treatment at higher temperatures. If not destroyed during processing they may grow in the sealed container and cause spoilage during storage.

The temperature and the amount of processing required to assure sterilization varies with different types of foods. Natural acidity of the food is an important factor as acid acts as a preservative to prevent the growth of many types of microorganisms. Thus high acid fruits may be processed at lower temperatures than low-acid vegetables. The kinds of organisms that may be present on the food or utensils, and the addition of preservatives such as sugar, salt, vinegar, and spices also affect the amount and kind of processing required. All of these factors are taken into consideration in the standard recipes and instructions for canning specific foods. For best results and safety, these directions must be followed exactly.

## *CANNING METHODS:*

Foods canned in the home are usually processed in one of three ways: by the boiling-water-bath, the steam-pressure cooker, and the open-kettle methods. The method used depends on the type of food being canned. Oven-canning is not recommended under any circumstances because of the many uncontrolled variables. The jars may explode or food may spoil due to under-processing.

### Water-Bath Method

Most fruits and some vegetables such as tomatoes, contain enough acid so that they may be canned at the boiling temperatures obtained with the water-bath method. The food is packed into clean, hot containers, leaving at least one-half-inch head space. If the food is packed hot, processing time is reduced, and air is evacuated from the food before it is put into the cans or jars.

This pre-heating is an essential step if tin cans are used as the cans are completely sealed before processing. If the food is packed cold, the unsealed cans of food must be heated in a water-bath for a few minutes before sealing. Glass jars, except for those with the self-ventilating lids, are only partially sealed to allow for additional exhaustion of air from the jar during processing. The jars or cans are then processed in a water-bath.

A sturdy kettle with a cover that fits tightly yet allows for the escape of steam is used for water-bath canning. It should be large enough to hold a convenient number of jars without crowding, and deep enough so that there may be two inches of water above the tops of the jars. If a regular cooker is not available, a large washtub or similar piece of equipment may be substituted. The jars are kept from direct contact with the heat by the use of a rack, and enough space is allowed between jars so that the boiling water can circulate freely.

### Steam-pressure Method

Low-acid vegetables, all meats, poultry, and fish must be heated to temperatures above boiling to insure that harmful bacteria are destroyed. This can only be obtained with a steam-pressure canner.

Meats, poultry, and fish are usually pre-cooked before processing, and most vegetables are blanched. This speeds processing, exhausts air from the food, and makes the food easier to handle during packaging as shrinkage frequently takes place. As in water-bath canning, the jars or cans used should be sterile and kept hot before used. The jars are sealed according to the type of lid, and put into the canner as soon as possible.

Steam-pressure canners are available in many designs and sizes, and it is important that the manufacturer's operating directions be followed exactly as these may vary for different types of canners. Before canning, the openings of the petcock or vent and safety valve should be checked to see that they are clean and free from obstructions. It is also wise to have the pressure gauge checked for accuracy at regular intervals. The canner itself should be clean, and the lid should lock securely into place.

For most pressure canners about two or three inches of water is placed in the bottom of the canner below the surface of the rack. The filled jars are then placed in the canner making sure that steam can circulate freely around the jars. The lid is put on, the canner is placed on the heat, and the air is exhausted from the canner. When steam escapes in a steady flow, the vent or petcock is closed. When the pressure reaches the required point, usually 10 or 15 pounds, processing time is begun. It is important that the heat be just high enough to maintain the same pressure throughout processing. After processing, the canner is removed from the heat and pressure is allowed to fall to zero before the vent is opened and the cover removed.

### Open-Kettle Method

In open-kettle canning, the food is pre-cooked in a kettle or deep pan, then poured, boiling hot, into hot jars and sealed at once, without further processing. This method is most successful with foods such as jams, jellies, and pickles because of the extra protection against microbial growth afforded by the high concentrations of sugar, salt, or vinegar.

This method is also sometimes used for high-acid foods such as tomatoes and some fruits. However, there is danger of contamination of the food while it is being transferred from the kettle to the jars,

and spoilage may result if there is no additional processing. When using this method it is particularly important that all utensils be scrupulously clean. Jars and lids should be boiled 10 minutes and kept hot until used. Because speed in sealing is so important, it is not advisable to use tin cans with the open-kettle.

## GETTING READY:

### Selection and Preparation of Food

Correct canning procedures, of course, are essential to successful canning. But equally important is the selection of high-quality foods. Canning will not cover up poor quality. The use of stale, over-ripe, or bruised foods can result in flavor changes and may cause spoilage. Fruits and vegetables to be canned should be freshly gathered.

Examine all fruits and vegetables carefully, removing any bruised or decayed areas. If they are to be canned whole, it is best to sort them so that similar sizes may be canned together in one batch. Since speed is a vital part of successful canning, it is not wise to attempt to work with larger quantities of food than can be handled conveniently at one time.

To keep possible contamination at a minimum all foods should be washed thoroughly before canning. Wash fruits and vegetables in several waters so that they are free from soil, and lift the food from the water rather than draining the water away or else the dirt will be strained back into the food.

To prevent sliced fruits from darkening, they may be put into a combination of one quart water, and two tablespoons each of salt and vinegar. A commercial preparation of ascorbic and citric acid will also prevent darkening.

### Making the Syrup

When canning fruits, the syrup should be prepared ahead of time to avoid delay during packing. Just before it is used the syrup should be heated to boiling and used hot. But care should be taken to prevent evaporation. A thin syrup may be made by combining one cup of sugar with three cups of water or juice from the fruit. It is stirred over low heat until the sugar dissolves, and then boiled for five minutes. To make a medium syrup, use one cup of sugar to two cups of water, and use equal amounts of sugar and water to make a heavy syrup.

Other syrups may be made with a combination of corn syrup and sugar. A medium syrup is made with one-and-one-half cups sugar, one cup corn syrup, and four cups of liquid.

Fruits may also be canned with a non-caloric sweetener such as *Sucaryl*. The fruit will taste sweet, but the syrup will not have the characteristic heavy body of those made with sugar.

### Preparation of Containers

All containers used in canning should be completely clean to prevent contamination of the food. Wash all tin cans or jars thoroughly and sterilize in boiling water. Glass jars are available in three main types: the glass top jar with the top usually held in place by wire clamps, the screw-top jar, and the self-sealer. The first two are used with rubber rings. The self-sealing lid has a composition ring which becomes soft when heated and hardens, forming a seal, when it cools. New lids are needed for self-sealing jars each time the jars are used. These tops cannot be sterilized because the composition ring will soften. They are dipped into boiling water just before using.

All jars and lids should be examined carefully for nicks. To obtain a good seal the top should fit well and should not be damaged.

When choosing containers, consideration should be given to the type of food being canned. Low-acid vegetables and meats should not be canned in jars larger than quart-size because of slow heat penetration in large jars. Foods, such as corn or lima beans, for which heat penetration is slow, are best canned in pint-size containers.

## AFTER PROCESSING:

Immediately after jars are removed from the canner the seal should be completed unless a self-sealing lid was used. Tin cans may be cooled quickly in cold running water. Jars should be set upright, far apart, and out of a draft to cool.

When jars have cooled they should be checked for leakage. If any do not have a good seal, the food should be reprocessed or used immediately. The jars should then be labeled with the contents and the date of canning, and they should be held for a week or 10 days and examined from time to time for any signs of spoilage. If there is any spoilage, the entire batch should be examined carefully. Store canned foods in a cool, dry, dark place.

### References


**Atlas Book of Recipes,** Hazel-Atlas Glass Co., Wheeling, West Va., 72 pages, no charge.

**Ball Blue Book, Home Canning and Freezing,** Ball Bros., Muncie, Ind., 60 pages, 25 cents.

**Finer Canned & Frozen Fruits,** Corn Prod. Refining Co., New York, N. Y., 30 pages, free while supply lasts.

**Home Canning,** The Burpee Can Sealer Co., Barrington, Ill., 78 pages, 25 cents.

**Kerr Home Canning Book,** Kerr Glass Mfg. Co., Los Angeles, Calif., 56 pages, 25 cents.

**So You're Canning,** American Sugar Refining Co., New York, N. Y., 31 pages, no charge.

**Pickled watermelon rind: cut 6 pounds rind in fancy shapes; soak in salt and water solution 4 hours; drain. Cover with water; cook 20 minutes till tender.**

**For syrup combine 9 cups sugar, 3 cups vinegar. Add 4½ teaspoons whole allspice, 1 teaspoon whole cloves, and 1 stick of cinnamon in a cheesecloth bag.**

Photos courtesy Western Beet Sugar Prod., Inc.

**Bring syrup to boil; add drained rind. Cook 5 minutes or until rind is transparent; pack in hot, sterile jars; seal.**

Many home kitchens are equipped with all the utensils necessary for canning with the exception of a large capacity steam pressure cooker.

Photo courtesy Ball Brothers Co.

# CANNING EQUIPMENT

PROPER selection, use, and care of canning equipment is as important to the success of home canning as is the quality of the food and the correct techniques. With the exception of jars, cans, and large capacity pressure cookers much of the equipment needed for home canning may be found in the well-stocked kitchen.

Preplanning should include an inventory of the canning equipment to be used, and an adequate supply of jars or cans with proper-size lids and rubbers should be assembled. Although some commercial jars may be used if they are fitted with new lids, it is safer to select jars especially designed for home canning. Commercial pack jars may crack when submerged in very hot water, or the lids might fit incorrectly. Dented cans or jars with chipped edges should not be used for home canning because such imperfections prevent an airtight seal.

Jars and cans come in a wide variety of sizes, but the size of closures are fairly well standardized so that new caps or lids may be purchased without difficulty. Success in getting an airtight seal depends upon using the correct size and style of lid for the container.

There are three types of jars generally available for home canning. The Mason jar is sealed with a porcelain lined zinc cap and a rubber ring. Other Mason jars are sealed with a two-piece cap. This consists of a metal disc which has a special sealing compound flowed around the edges and a metal screw band to hold the disc in place. The lightning jar has a glass lid and a bail handle. A rubber ring is fitted on the jar before the lid is put in place. During processing the upper wire loop is placed over the top of the lid. The jar is sealed completely after processing by pushing down the lower wire against the side of the jar.

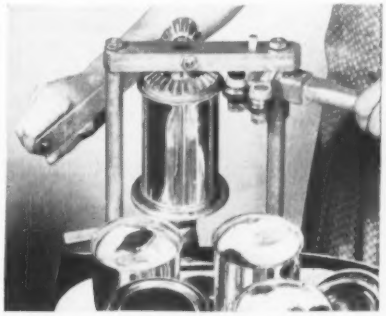
Tin cans are also satisfactory for home processing of foods. These must be closed with a can sealer. Plain tin cans may be used for all types of food, but enamel-lined ones are available for highly colored vegetables such as beets.

A pressure cooker provides the only safe way to process meats and non-acid vegetables. It should be inspected carefully before use to ascertain the accurateness of the pressure gauge and safety of the vent. A jar rack or trivet should be used to keep the jars from the bottom of the cooker.

Any deep utensil may be used for a water bath if it has a lid and is large enough to hold a convenient number of jars and is deep enough so that water boils well over the tops of the jars.

Many types of small utensils ease the task of home canning. Essential small equipment includes knives, measuring cups and spoons. Helpful aids include blanching basket, jar lifters, ladles, tongs, funnels, pitting tools, and plenty of clean cloths and pot holders.

After the canning session is completed, equipment should be stored carefully for next year. As jars are emptied, they should be washed and stored with their lids on a convenient shelf.



A *Burpee* can sealer is used to seal tin cans before the final processing of food.

# FREEZING

Photo courtesy Reynolds Metals Co.

**Aluminum foil—good packaging material for pies.**

FREEZING, which is one of the newest methods of preserving food in the home, is fast becoming one of the most popular. Quick, efficient, and requiring little advance preparation, freezing retains much of the original color, flavor, texture, and nutritional value of food.

In freezing, spoilage organisms such as yeasts, molds, and bacteria are not destroyed as they are in canning. However, their growth is inhibited by the extremely low temperatures used, and most foods may be kept safely for many months without danger of spoilage. In addition, freezing of the moisture present in foods make it unavailable to microorganisms. Microbial growth cannot take place without sufficient moisture.

Enzymes which are naturally present in fruits and vegetables may cause deterioration of the food during freezer storage, so they must be destroyed by blanching or scalding the food for a few minutes in boiling water or steam. The food should be cooled immediately after blanching to stop the cooking action. All vegetables are blanched, but such treatment would destroy the delicate texture and flavor of many fruits, and they are protected against enzyme action by the addition of dry sugar or a sugar syrup.

Quick-freezing, a process that was developed in the 1920's, is the basis of all modern freezing — commercially and in the home. This process results in the development of very small ice crystals within and between the cells of the food. When the food is thawed there is a minimum of damage to the cell walls. Large ice crystals produced by slow freezing can destroy the cell walls resulting in leakage and flabbiness of the tissues. Most commercially frozen foods are frozen at temperatures ranging down to —40 degrees F. Some home freezers have special compartments for quick-freezing. In others, the food to be frozen is placed next to the walls of the freezer.

### Selection of Food

Many different types of foods may be frozen with excellent results. Meats, poultry, fish, most fruits and vegetables, and bakery products may be successfully frozen.

When freezing fruits and vegetables, choose varieties that freeze the best. Information on this is available from state experiment stations, and may vary with different localities. It is wise to keep informed on this subject as new varieties, developed especially for freezing, are becoming increasingly available. In general, most fruits and vegetables may be frozen. Exceptions are salad greens, tomatoes, and other crisp vegetables, whose characteristics may be changed by the freezing process.

Meats and poultry are well suited to preservation by freezing. It has been observed that smoked meats should not be frozen because the high salt content may accelerate rancidity of the fat. However, these products may be frozen if the meat is well packaged and prolonged storage is avoided. Poultry should be eviscerated but never stuffed before freezing as there is danger of spoilage.

Cakes and pies are best frozen after they are baked. Unbaked batters tend to shrink during freezer storage, and are awkward to handle in packaging. Yeast products, too, should be at least partially baked before freezing.

Eggs should not be frozen in the shell, since freezing causes expansion and cracking. Egg whites may be frozen without any treatment, but egg yolks may become gummy if not mixed with corn syrup, sugar, or salt before freezing. Heavy cream may be frozen and stored for a few months, but may require homogenization after thawing to make it smooth. Many cheeses may be frozen, but some, such as cheddar, become crumbly after long storage.

Freezing is an excellent method of preservation, but it will not improve or disguise poor quality. All food to be frozen should be in prime condition. Meats and poultry should be tender. Fruits and vegetables should be freshly gathered, and all bruised or decayed areas should be cut away. Thorough cleaning of the food is also important before freezing.

### Packaging

Proper packaging is an important part of freezing. If good packaging materials are not used or if the food is wrapped carelessly, the food will be subject to freezer burn and oxidation. Good packaging also prevents the transfer of flavors and odors from one food to another.

Freezer packaging materials must be moisture-vapor-proof to prevent undesirable changes in the food during storage. Strength, durability, ease of handling, and cost should also be considered.

There are a great many packaging materials available for home freez-

Photo courtesy Hazel-Atlas Glass Co.

**Glass jars are handy for packaging semi-liquid foods.**

Photo courtesy Western Beet Sugar Producers, Inc.

**Paper containers with thermo-plastic liners are good freezer containers.**

Photo courtesy Nash-Kelvinator Corp.

**"Drugstore wrap" for irregularly-shaped foods like meat.**

ing, and these products are being constantly improved. Choice will depend upon the type of food to be frozen. Fruits, vegetables, juices, and other liquid or semi-liquid foods must be packaged in sturdy, leakproof containers with tight fitting covers. Heavily waxed paper cartons, with or without liners, are frequently used for this purpose. For most efficient use of storage space, flat containers which can be packed compactly are preferable to round ones. Containers are also available in plastic and aluminum. Although the original expense may be greater than for paper cartons, these may be used again and again. Glass jars may also be used for freezer storage of liquid and semi-liquid foods, and many homemakers like the convenience of being able to see the food in the container.

Bakery products, meats, poultry, and fish are usually packaged with sheet wrappings. These include special freezer papers which have been coated or laminated with heavy wax, plastic, or aluminum foil. Cellophane and plastic films are also popular packaging materials. They are strong, pliable, transparent, and some are thermo-plastic permitting heat sealing of the package. Aluminum foil, which is available in freezer weights, is another good sheet wrapping material. It is attractive and easy to use, and is especially good for wrapping foods such as rolls which may be heated right in the packaging material before serving. To obtain a tight seal with many of the sheet wrappings, it is advisable to seal the package with freezer tape which adheres firmly at low temperatures.

After packaging, the food should be labeled with the date, amount, and kind of food. It should then be frozen as quickly as possible.

### Freezer Storage

The best temperature for storage of frozen foods is zero degrees F. Most foods may be stored at this temperature for one year without loss in quality. At higher temperatures the storage period is reduced.

The length of time a food may be stored in the freezer depends on the type of food and the manner in which it was prepared. For example, ground or sliced meats, because of the greater amount of surface that is exposed, will not keep as long as large, whole pieces of meat. And pork, which contains high amounts of fat, should not be stored longer than four months at 10 to 15 degrees F. Shellfish become tough and rubbery, and are best if used after a few months storage.

Most vegetables will retain their quality for 10 months at zero degrees F. storage, and six months at five degrees F. Fruits may be safely stored at zero degrees F. for periods up to one year, and for eight months at five degrees F. Cake and cookie products that are already baked may be stored in the freezer for one year at zero temperatures. Unbaked batters will keep for only six months. Baked pies may be stored for six to eight months.

**Storage methods vary with different models. At left is the *Amana* freezer which features shelves in the door. The Westinghouse freezer, above, has inner compartment doors and a sliding drawer at the bottom.**

# FREEZER MANAGEMENT

By ORPHA MAE THOMAS

FREEZERS have now become an accepted home appliance. Market statistics show that there are nearly 6,000,000 home freezers in use today and that they are being sold at the rate of 1,200,000 per year.

The convenience afforded by a freezer is perhaps the largest single factor for owners who live in cities or suburban areas, while storage of produce from the farm or garden is more appealing to the rural home owner. Advantages of a home freezer include being able to save time and energy by shopping for a large supply of food at one time. It is also possible to have an assortment of food on hand when it is needed. Thus when guests arrive unexpectedly, the owner of a well-stocked freezer is well supplied. Some hostesses even have complete menus packaged together for quick service.

Another way to use the freezer to advantage is to prepare several times the amount needed for one meal. The remainder can be stored in the freezer for a future time. The preparation of food for a person on a special diet can be simplified by preparing a recipe in larger amounts, and freezing single portions to reheat later. Leftovers, too, can be stored in the freezer, making their return to the table a treat some other day.

Some savings may result by buying in bulk or at sales. Many foods are seasonal and may be purchased when the supply is abundant and the prices low.

### Types of Freezers

The three principle types of freezers available for the home are the chest, the upright, and those that are incorporated as part of the household refrigerator. Chest-type freezers require more floor space than other models, but because of the method of construction used, their initial cost is usually lower. Interior arrangements may be varied and it is convenient to store irregular-shaped packages in them.

Upright freezers do not require as much floor space as the chest type unless the space into which the door swings is considered. Because of the distribution of coils under each shelf a more even temperature may result. Many prefer the ease of storing food, or a considerable quantity of it, at high levels which make stooping unnecessary. Shelves also permit the departmentalization of the various types of foods stored, However, odd-shaped packages offer some difficulties as they may slide out when doors are opened.

Freezer compartments have been featured in household refrigerators for many years. This compartment has grown to a capacity of several cubic feet. There are several new combination models in which the freezer takes up as much as half the total volume of storage space. In at least one model, the freezer compartment is placed below the refrigerator storage area.

### Capacity and Location

The capacity of freezers is usually expressed in cubic feet. A more meaningful figure is the number of pounds a freezer will hold.

**Chest type *Kelvinator* freezer will store approximately 913 pounds of frozen food.**

**Upright *General Electric* freezer has storage shelves in door for small items.**

**Special basket in *Hotpoint* home freezer is designed to protect cakes and pastries.**

Brickshaped packages store compactly and a cubic foot holds up to 40 pounds. However, the same space will accommodate only 25 pounds of food packaged in cylindrical or odd-shaped containers. Thus the poundage capacity is usually rated as an average of these figures, or 30 to 35 pounds per cubic foot. Baked goods require so much space that the poundage is much less.

Larger freezers are more in demand now as women find more uses for this type of storage. A suggested capacity is 3 to 5 cubic feet for each member of the household.

When home freezers were first in use, they were often placed in the garage or basement. However with the introduction of upright models and restyling of chest types, freezers are now placed in the kitchen.

### Management

Proper packaging, labeling, and placement of food are important to the successful management of the freezer. All containers should be marked to indicate the date of purchase or packaging, the type and variety of food, kind and amount of sweetening, and the weight. Packages should be arranged so that the oldest will be used first. This prevents loss of food due to excessive drying or freezer burn. A running inventory should be kept up to date to indicate what is in the freezer, how old it is, and how much has been used.

Another aspect of freezer management is planning ahead. For example if a quart of green beans for each week of nine months is desired, then 36 to 40 quarts should be frozen. It is also wise to know the capacity of the freezer in terms of food so that it is not crowded with an abundant supply of green beans only to find there is no space left for corn when it is in season.

### Defrosting

The home freezer has to be defrosted once or twice a year. This should be done when the frost is ¼ to ½ inch thick on the side walls. Food must be removed from the freezer and either placed in the refrigerator or covered with blankets to keep it insulated from the warm room air. Frost is scraped from the surfaces with a blunt tool of plastic or wood. After frost is removed, the walls should be washed with soda-water solution and wiped dry.

In the event of a power failure, the freezer should not be opened. If kept closed, food will remain frozen for 24 hours or longer. If power is not restored within a day, dry ice should be placed in the the freezer *should not be opened.* to another freezer or a public frozen-food locker.

### Cost of Operation

The cost of operating a freezer depends on a number of factors, including size, shape, insulation, outside temperature, relative humidity, the frequency and duration of openings, and the cost of electric power. The average power consumption seems to be about 7 KWH per month for each cubic foot of space.

The total cost of owning and operating a freezer must include the initial price and cost of maintenance. The initial cost should be absorbed over the life of the freezer. Although few freezers have been in use long enough to know the average life to expect, an anticipated life of 15 years is accepted. Interest which may have been earned by the capital investment and the cost of repairs and maintenance, and insurance also have to be considered. Thus, for example, if a 12-cubic-foot freezer with an approximate capacity of 420 pounds is purchased for $500 the yearly operating cost would be computed as follows:

| | |
|---|---|
| **Initial cost of $500 divided by 15 years anticipated life** | **$33.33** |
| **Interest on investment of $500 at 2 per cent** | **10.00** |
| **Average yearly repairs and maintenance** | **5.00** |
| **Insurance costs** | **4.00** |
| **Operating cost 12 cu ft x 7½ KWH per month x 12 months x 3c per KWH** | **32.40** |
| **Total** | **$84.73** |

Thus the cost of storing one pound of food a year in this freezer which has a capacity of 420 pounds would be 20 cents. Costs would be reduced if there was a rapid turnover of foods stored in the freezer. In other words, if 840 pounds of frozen food were stored and used in one year, operating costs would be reduced to 10 cents per pound.

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# OTHER METHODS

## of Food Preservation

CANNING, freezing, and refrigerator storage have already been discussed as methods of preserving foods in the home. Other methods include dehydration, brining or salting, and cellar storage of certain fruits and root vegetables.

### DEHYDRATION

Preservation of food by dehydration is accomplished by the removal of moisture which inhibits the growth of microorganisms. Dehydration is one of the oldest methods of food preservation, and although it is not now used to any great extent in the home, it still is important in the commercial preparation of many fruits, dried milk, eggs, soup mixes, and similar products.

Food dehydrated in the home may be dried outdoors by the heat of the sun, or it may be dried indoors using artificial heat and air current. Outdoor drying can be used only in climates where the sun is hot and the air dry. The heat needed for indoor drying may be supplied by an oven, a portable heater, electric light bulbs, or surface heat from the range. The temperature must be high enough to dry the food in a minimum of time, but low enough to prevent scorching.

Vegetables that may be dried successfully include: corn, beans, peas, and carrots. Fruits such as apples, pears, apricots, cherries, plums, and prunes may also be dehydrated with good results. The food should be good quality, freshly gathered, and in prime condition. Any blemishes or decayed areas must be removed before dehydration. To prevent enzyme action all vegetables are blanched before drying, and fruits are either syrup-blanched or sulfured. Large fruits or vegetables are usually sliced or cubed.

The prepared food is placed on trays in single layers. Trays should be rotated during dehydration, and frequent stirring facilitates drying. A generous, even flow of air must circulate around and over the food. Most vegetables are dried to a moisture content of five to 10 per cent, and this usually requires four to 12 hours. Fruits have a final moisture content of 10 to 15 per cent, and are dried six hours or more.

Dehydrated foods must be protected against moisture and insects during storage. Store in metal containers or heavily waxed paper cartons with tight fitting covers. Glass jars or moisture-vapor-proof bags may also be used, but these have to be protected from exposure to light. The food should be stored in a cool, dry, dark place.

### BRINING and SALTING

The addition of preservatives such as salt to foods is another method of preservation that has been used for many centuries. Brining or salting is still used to preserve fish and meat and is the first step in the preparation of pickles and sauerkraut. However with improvements in refrigeration, canning, and freezing, the use of salt to preserve foods, especially vegetables, has declined.

A high salt concentration inhibits the growth of microorganisms. In addition there is a partial dehydration as salt draws out moisture from the food. With most pickles there is also a fermentation developed from the formation of lactic acid which acts as a preservative. Vinegar, spices, and sugar added to pickles also act as preservatives.

When brining foods in the home, the most suitable container is a heavy stone crock. The salt used must be pure; most table salts contain added carbohydrates. The food is covered with a plate or wooden cover, and a layer of cheesecloth. A weight is then placed over the cloth to keep the food submerged in the brine. Scum which forms on top of the brine must be removed frequently.

### CELLAR STORAGE

For many families, especially those in rural areas who produce much of their own food supply and do not have daily access to food markets, cellar or winter storage is a common method of food preservation. Semi-perishable foods such as late apples, pears, potatoes, cabbage, turnips, onions, and carrots may be kept for months. If suitable space is available, this is the easiest method of preserving these foods, requiring little care and practically no expense.

A cellar or basement usually provides the correct storage conditions. The area should be cool, slightly damp, protected from rodents and insects, and arranged to allow free circulation of air around the food. Freezing must be prevented, but the temperature for most foods should be as close to 32 degrees F. as possible. A reliable thermometer should be hung in the storage room.

Since most fruits and vegetables have a high moisture content, the humidity in the storage area should be relatively high, or the food will shrivel and may spoil. Protection against rodents and insects is afforded if the food is stored in a special room that has a screen door that fastens securely. Or else a portion of the cellar may be partitioned off to keep vermin out. To provide for adequate ventilation, the room should have at least one outside window, and sufficient shelves to allow storage of food away from the floor.

Food stored in this manner should be clean, dry, and in good condition at the time of storage. Remove spoiled fruits or vegetables, or spoilage may spread.

Carrots, beets, and rutabagas should be stored in boxes, bins, or barrels. Cover with paper or bags to maintain high moisture. Cabbage should be mature, firm, and free from disease, with the outer leaves removed. Store on slotted shelves or in slotted containers so air can circulate freely around them.

Onions must be mature and thoroughly dry before storage. Remove the tops and store in slotted crates or woven baskets to permit ventilation. Apples such as Northern Spy and Baldwin are best for cellar storage. They should be picked ripe but not over-ripe. and they must be handled carefully to prevent bruising. Wrapping prevents the absorption of odors from other foods.

Doors of this *Frigidaire* refrigerator have convenient storage shelves.

# Refrigerator STORAGE

MODERN refrigerators are designed to maintain cool temperatures which retard changes in food that impair their nutritive value or palatibility. In general, refrigeration above freezing will not prevent deterioration of foods, but it will inhibit the growth of microorganisms so that food will keep at least two or three times longer than it would if stored at average room temperature.

The length of time refrigerator storage is effective is dependent upon the type and condition of the food when it is stored. Highly perishable foods such as ground meat and fresh fish should not be stored for more than a day or two. They should be stored in the coldest part of the refrigerator which is near the refrigerant coils.

Milk, cream, and all types of meat should also be stored in the coldest part of the refrigerator. These will remain in good condition for several days, but after a week of storage, they should be inspected carefully for signs of spoilage.

Leafy vegetables should be washed before storage and then placed in the vegetable crisper. Uncooked potatoes, rutabagas, onions, and winter squash do not need refrigeration. Fruits with strong odors such as cantaloupe and pineapple should be wrapped in foil before storage. Berries should not be washed until ready for use. They should be placed on a flat dish and covered lightly with waxed paper.

Eggs keep well in the refrigerator and whites and yolks stay moist for several days in a covered jar. Butter should be carefully protected with waxed paper to prevent the absorption of odors and flavors from other foods.

Excessive drying of food accounts for some loss. Drying is caused by the constant air circulation within the refrigerator which takes place when the heavier cold air around the coils drops down displacing the warm air which rises to the top. Practically all types of food whether fresh or cooked should be wrapped or placed in covered containers. Not only does the covering help to retain moisture content, but it protects food from airborne contamination.

Manufacturers have recognized the importance of good storage practices and have provided many devices to simplify the procedures. Perhaps one of the first conveniences was the installation of the interior light which illuminates the entire area when the door is opened. Then, the addition of special storage drawers for meat and vegetables made it easier for the homemaker to place meat in the coldest part of the refrigerator and to keep vegetables moist as well as cold.

This year we see many advances in storage conveniences. Increased space has been achieved by placing shelves in the door. At one time these shelves were only wide enough to hold eggs and a few small containers, but now bottles, cheese cartons, and some fruits may be stored in this area. A butter compartment is also placed in the door of many models. This keeps butter at spreading consistency and protects it from absorbing odors from other foods. Cheese may also be stored in special compartments which have sponges to control the humidity.

Interior shelf arrangements have been improved, too. Practically all models now have sufficient space for storing tall bottles. Some have special shelves which drop down to accommodate especially large items.

Shelves now roll out on nylon casters so that food is immediately accessible. The shelves of one refrigerator are semicircular and turn out freely. Mounted on a steel shaft which rises from the base of the refrigerator, the shelves can be raised or lowered easily.

Practically all fittings in new refrigerators may be removed for cleaning. Refrigerators should be cleaned thoroughly each week.

Roll-out shelves of the *Crosley* refrigerator bring food into complete view.

## Modern Food Processing

*(Continued from page 17)*

ucts electrolytic tin plate has replaced much of the other two kinds of plate.

Also of great importance in the development of the modern tin can has been the tremendous progress in the field of synthetic resins. Until 1920, most of the tin-plate cans were lined with a clear enamel to reduce corrosion, sulfide bleaching, and depigmentation of colored fruits. Now the trend has been toward organic protective coatings which not only have greater chemical resistance than the natural resins but also improved moisture resistance. The canning industry has as its goal a "tinless" can. Aluminum cans show great promise because of their resistance to acid and their light weight. Several European countries have already introduced their general usage.

The three most significant innovations in canning processes have been "high-temperature short-time" or "flash" sterilization, aseptic canning and sealing, and agitated cooking. High-temperature short-time sterilization, commonly referred to as "high-short" sterilization, is generally considered to be far superior to the conventional method of sterilization insofar as the production of good quality products is concerned. The process in some cases may require a temperature of 250 degrees F. for only one minute. This technique is gradually being adopted in all new processes.

The aseptic canning technique represents a radical departure from the usual canning procedure in which the cans are filled and then sterilized in large retorts. In this process the product is sterilized by the high-short procedure, cooled rapidly in a continuous flow heat exchanger, and sealed with sterile covers. Fluid and semi-fluid products are best suited for this process. Aseptically canned, cream-style corn has a fresher taste and better color than corn canned in the conventional manner. This is especially apparent in white corn, where the older procedure results in a slightly shaded color, undoubtedly caused by carmelization. This new process may alter can specifications for the can no longer would be required to withstand pressures that develop during retorting.

Agitated cooking has done much to improve the quality of certain liquid and semi-liquid foods, for it speeds heat penetration and thus reduces the time required for sterilization. Maximum heat penetration is obtained when the can is turned end-over-end in its rotation at a speed that will produce a centrifugal force equal to gravity. The head space bubble travels through the center of the length of the can, producing maximum agitation.

Peas can be processed by this end-over-end agitation method at a temperature of only 20 degrees F. higher than that required for the conventional still-retort process, but in less than one fifth the time. Experiments have indicated that there is a greater retention of thiamine in vegetables processed this way—loss of thiamine usually indicates undesirable changes caused by processing. The final product also retains much of its original flavor, taste, and color.

Two relatively new products, canned whole fluid milk and canned bread, appear to be progressing into the realm of reality. Approximately 22 billion packages of fluid milk are sold each year in the United States. This highly nutritious and desirable product, however, has a refrigerated shelf life of only a few days. Food people have long been searching for a milk product that has the flavor and nutritional properties of conventionally pasteurized milk but superior storage qualities. By the use of high-short sterilization a canned whole milk has now been obtained that has a storage life of from five to six months at 50 degrees F., and one month at higher temperatures.

Although the canning of bread was accomplished many years ago, it is only recently that a canned bread product has been obtained that resembles the fresh product. In-the-can baking was the answer, but it required many technological developments. Special enamels that did not develop off-flavors and new sealing compounds that resisted the fat used in greasing the dough were but minor problems, which have now successfully been solved. Problems still exist from the standpoint of suitable formula development. The resultant product, which has a shelf life of two years, can be used in military and civilian outposts that are not served by bakery facilities. The cost at present is double that of ordinary bread and hence does not appear to be attractive to Mr. and Mrs. America.

### New Developments

The advances in food technology, especially food processing, that have thus far been discussed all serve to emphasize the goal of the food industries—to produce better foods that can compete successfully in all respects with fresh products the year round. To that end, the food technologist has modified and elaborated existing processes so that we can produce foods that are better in quality, cheaper in price, and more convenient to handle. However, the research man is always searching for methods other than the conventional ones to meet his objective.

The use of antibiotics in conjunction with low-temperature processing at one time appeared to show great promise as a new method of preserving food. But further research did not support this hope. It was thought that the addition of antibiotics, as subtilin, to canned foods would permit a much milder heat treatment since the antibiotic would kill the more resistant bacteria. This milder treatment would not harm the flavor of processed canned foods so much as the conventional heat treatment. However, even though a general all-purpose antibiotic has not yet been found and even though the Food and Drug Administration has not as yet approved this novel technique, research is continuing in this field.

Antibiotics have been used successfully in extending the storage life of fresh foods. For example, freshly caught fish placed in ice flakes containing one part per million of aureomycin has an extended storage life. Spraying of packaged spinach with streptomycin has also produced encouraging results.

Preservation of foods by the addition of chemicals is a field of research that is now being actively pursued. The idea is not new, for chemical preservatives such as sodium benzoate and sulfurous acid have been used for many years. New chemical preservatives are constantly being found and added to foods. Their indiscriminate use is, however, carefully scrutinized by the Food and Drug Administration and is now the subject of much controversy. On the other hand, many new preservatives have been found which have done much to improve food processing. Sorbic acid is such a chemical. When incorporated into cheese wrappers it inhibits the growth of fungi on the cheese and thus extends the shelf life of the cheese. Sorbic acid has tentatively been approved by the Food and Drug Administration for it exhibits no toxicity.

The food processing industry is

*(Continued on page 39)*

Recipe Review

# Jams and Jellies

• Here is a brief review of choice jam and jelly recipes. First, some new ideas using commercial pectin and frozen fruits. Then, tips on making homemade jams and jellies in the traditional manner.

Jam is made with whole berries or fruit. Jelly, made with fruit juice, should be clear and sparkling, tender yet able to hold its shape, and it should have the characteristic flavor of the fruit from which it was made.

LEMONADE JELLY

**Lemonade Jelly**

| | |
|---|---|
| 1 2½-oz. box powdered fruit pectin | ¾ cup (6-oz. can) frozen concentrated lemonade |
| 2½ cups water | 2½ cups sugar |

Measure powdered pectin and water into large saucepan; mix well. Place over high heat; bring to full rolling boil, and boil 1 minute, stirring constantly. Reduce heat to low. Add lemonade and sugar; stir until dissolved. (Do not boil.) Skim quickly and pour immediately into jelly glasses. Yield: 6 medium glasses. *Note:* If used within 2 months, no paraffin is needed. Cover and keep in refrigerator.

**Peach Jam**

| | |
|---|---|
| 3 cups sugar | ⅓ cup water |
| 2⅔ cups (2 12-oz. boxes) frozen sliced peaches | ½ box (about 3½ tablespoons) powdered fruit pectin |
| 2 teaspoons lemon juice | |

Measure sugar and set aside. Place thawed peaches in large saucepan and crush. Add sugar, lemon juice, water, and powdered fruit pectin; mix well. Place over high heat and boil hard 1 minute, stirring constantly. Remove from heat and skim off foam with metal spoon. Then stir and skim by turns for 5 minutes to cool slightly, and to prevent floating fruit. Ladle quickly into glasses. Cover at once with ⅛ inch hot paraffin. Yield: about 5 medium glasses of jam.

**Serve homemade jelly as a sauce with ice cream.**
Photos courtesy General Foods

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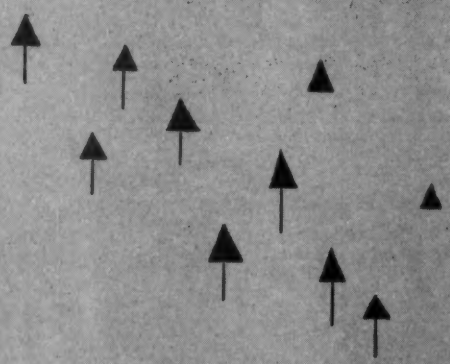

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### Strawberry and Apricot Preserves

. . . here's a preserve with plump pieces of fruit and a bright tangerine color.

**20 medium apricots (about 2 pounds)**
**3½ cups strawberries**
**6 cups sugar**
**½ teaspoon mint extract**

Wash, pit, and quarter apricots, measure 8 cups. Combine with washed strawberries in large kettle; add sugar and stir together. Bring to rolling boil; boil 18 minutes or until two thick, heavy drops run together off clean metal spoon (220° F.) stirring frequently. Remove from heat. Skim; stir in flavoring. Pour into hot, sterilized jars. Seal. Makes 4 pints.

**Making strawberry apricot preserves — thermometer insures accurate results. Also shown is the "sheeting" test.**

### Bing Cherry Conserve

. . . for best flavor, use within six months.

**10 cups pitted, halved Bing cherries (about 4 pounds)**
**2 cups seedless raisins**
**2½ cups sugar**
**1 cup white vinegar**
**1 cup water**
**1½ teaspoons cinnamon**
**1 teaspoon salt**
**½ teaspoon cloves**
**1 cup almonds, chopped**

In large preserving kettle combine all ingredients except almonds; include any cherry juice. Stir to mix in sugar. Place on high heat; bring to rolling boil. Lower heat and simmer until thick, about 45 minutes, stirring occasionally. During last 3 minutes of cooking, stir in almonds which have been warmed in slow oven 5 minutes. Remove from heat; skim. Pour into hot, sterilized jars; seal. Makes 4 pints.

Photos courtesy Western Beet Sugar Producers, Inc.

**Cooked jam is poured quickly into hot, sterilized jars.**

## Recipe Review

**Apply paraffin in thin layer. When set apply second layer. When firm cover with a lid.**

Photo courtesy Western Beet Sugar Producers, Inc.

### Red Currant Jelly

. . . an uncooked jelly with high pectin fruit.

**7 cups red currants** **½ cup water**
**3¾ cups sugar**

Combine washed, unstemmed currants and water in kettle. Cook on high heat 10 minutes, stirring often. Pour into dampened jelly bag; allow to drip into bowl. Measure 2½ cups juice; bring to rolling boil in kettle; add sugar. Remove from heat, stirring 2 minutes to dissolve sugar. Pour into hot, sterilized glasses; seal. Makes 4 (8-oz.) glasses.

Photo courtesy Ball Brothers

**Delicious homemade jams and jellies may be put up in a variety of jars.**

### Orange Marmalade

. . . an all-time family favorite.

**6 oranges** **2 lemons**
**sugar**

Wash fruit. Thinly slice or chop orange peel. Cut pulp into chunks. Slice lemon. Cover fruit with 6 cups of water. Simmer 5 minutes. Let stand 12 to 18 hours in cool place. Boil until peel is tender. Measure fruit and liquid. Add 1 cup sugar for each cup of fruit and liquid. Boil to jellying point, which is indicated by this sheeting test. Dip spoon into boiling syrup; tilt spoon until syrup runs out—when the last 2 drops run together and flake or sheet. Pour boiling hot into hot jars. Seal.



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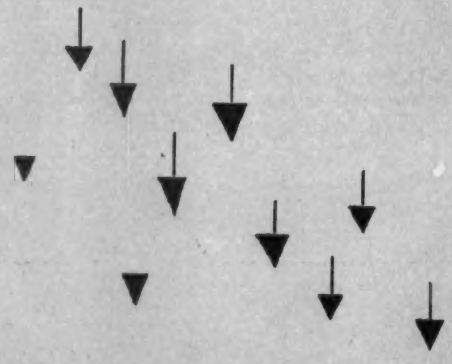

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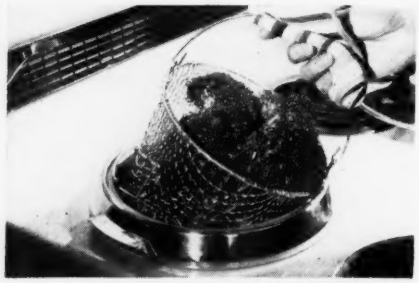
# Freezing

• Convenience, variety, and an ever-ready supply of food, are only a few of the advantages of having a home freezer. The family may freeze their own or purchase the many types of commercially prepared frozen foods that are available.

When freezing at home, the food must be of the highest quality, preparation should be speedy, and the correct packaging material should be used. Here are some ideas for freezing fruits and vegetables.



Photos courtesy Westinghouse

Blanching, to destroy enzyme action, is the first step in preparing vegetables for freezing. *Above*, broccoli is steamed 4 minutes. A wire basket is good for this purpose. It is then cooled quickly in an ice-water bath. Draining on a clean, absorbent dish towel is the next step, and it is important to remove all excess moisture. The broccoli is then placed in a polyethylene bag, working out the air. The bag is sealed with a special acetate band or household string. Label and freeze immediately at minus 20 degrees F.

## Recipe Review

Photos courtesy Western Beet Sugar Producers, Inc.

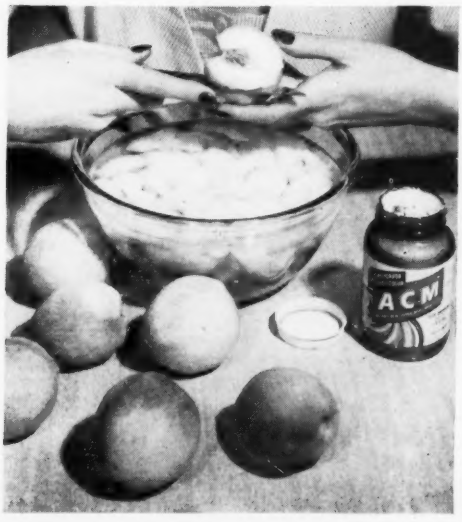
### Freezing Apricots

Sugar is an important factor in successful freezing of fruits. The sugar may be used dry or as a syrup . . . it helps to preserve the color, form, and flavor of the fruit.

*Dry Sugar Method:* Wash, pit, and quarter unpeeled firm-ripe apricots. Cut away blemishes. Spread 4 cups prepared apricots in flat-bottomed pan. Sprinkle with 1 tablespoon lemon juice or preparation of ascorbic and citric acids to prevent discoloration. Add 1 cup sugar. Stir gently with rubber scraper until all sugar is moistened. Spoon into freezing containers; seal as directed by manufacturer. Label and freeze.

*Sugar Syrup Method:* Prepare medium syrup (1 cup sugar to 2 cups water) in advance; chill. Wash, halve, and pit, unpeeled apricots. Cut away blemishes. Place halves in freezing containers; cover with chilled syrup to which 1 tablespoon lemon juice or ascorbic acid has been added. Place crumpled strips of waxed paper on top of fruit to hold it under the syrup. Seal containers, label, and freeze quickly. Store at zero degrees F.

**When freezing peaches, A*C*M—a mixture of citric and ascorbic acids—prevents darkening.**





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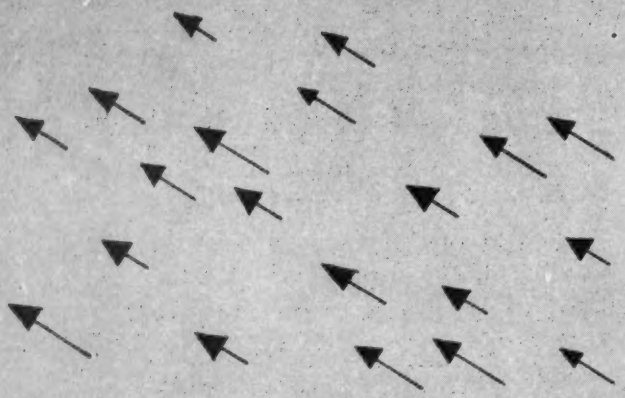

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Recipe Review

# Pickles and Relishes

• Pickles and relishes—ranging from the familiar cucumber pickles to chutneys and piccalilli—add zestful flavor and eye appeal to any meal. They may be sour or sweet, and highly or mildly seasoned with a variety of spices. Jars of pickles and relishes must be sealed airtight while the food is boiling hot, or else processed in a water-bath canner.

**LATE SUMMER CHUTNEY**

### Late Summer Chutney

- 16 cooking apples, peeled
- 12 small white onions
- 2 medium green peppers
- 1 can pimiento, drained
- 1 cup seedless raisins
- 1 quart white vinegar
- 2½ cups sugar
- 1 cup brown sugar, firmly packed
- 2 tablespoons mustard seed
- 1 tablespoon salt
- 1 teaspoon ground ginger

Put apples, onions, green peppers, and pimientos through food grinder, using coarse knife. Combine in preserving kettle with remaining ingredients, mixing well. Bring to boil over high heat; lower heat and cook slowly until thickened, about 20 minutes, stirring often. Pour into hot jars, seal at once. Makes 6 pints.

### Spiced Peaches

- 6 pints peeled peaches
- 8 cups sugar
- 2 cups cider vinegar
- 1 tablespoon whole cloves
- 1 tablespoon whole cinnamon

Combine sugar and water; add spices in cheesecloth bag. Boil 5 minutes; cool. Add peaches; simmer until tender. Let stand overnight. Pack fruit into hot, sterilized jars. Boil syrup until thick; pour over fruit while boiling hot. Seal at once with sterilized caps. Fruit may be decorated with whole cloves.

**Pickled fruits make good meat accompaniments.**

Photo courtesy American Spice Trade Assn.

# PANTRY SHELF STORAGE

Photo courtesy American Can Company

## A Well-Stocked Pantry Aids Meal Planning

THE variety of foodstuffs that may be stored satisfactorily on the pantry shelf is continually increasing as packaging and processing methods are improved. A cool dry storage area is ideal for storing canned foods, grains, sugars, other dry products, and fats and oils.

Good management of the pantry shelf includes a regular turnover of supplies, an efficient storage arrangement, and an occasional cleaning. Overstocking is not advised because prolonged storage tends to reduce the quality of the product.

The shelf life of any given product is directly dependent upon the type and condition of the food, the packaging, and the atmospheric conditions of the storage area.

### Canned Foods

Foods that have been properly canned either commercially or at home are not subject to spoilage because the canning process involves sterilization which kills spoilage agents. The airtight seal prevents new spoilage agents from entering the container. However if the can has been damaged and the seal broken, the food should be used immediately. If the seal has been broken at some unknown time, the food should be carefully examined for signs of spoilage.

Bulging cans, loose caps, active fermentation, and mold are all signs of spoilage, and food should be either discarded or reclaimed by prolonged boiling. Dented or rusted cans do not necessarily indicate spoilage. If the seal has not been broken, the food is probably in good condition.

All canned foods should be stored in a cool dry place. It is especially important that food canned in glass containers be stored away from direct sunlight because of possible discoloration. In general, most canned foods can be stored satisfactorily at room temperature for a year. After this period certain chemical changes tend to cause unpleasant flavors although the food is still usable. Incidentally there is no advantage to storing unopened canned foods in the refrigerator. Such storage is space-consuming and the moisture within the refrigerator may rust the can.

### Grains and Sugars

Protection from moisture is the chief factor in the storage of grains and sugars. These foods, with the exception of flour, are usually packaged in wax-lined containers. If the liner is carefully folded together as the level of food goes down, no further protection is needed. Of course, grains and sugars may be placed in special cannisters, but care must be taken to keep the covers tightly closed.

White flour is more stable than the dark flours which contain the wheat germ. The germ contains oils that become rancid after a period of time. Weevils may be present in flour. Usually this is because weevil eggs were not removed during milling and they hatched later. Weevils are not harmful and may be sifted out if the flour is to be used.

Ready-to-eat cereals lose their crispness after the package is opened or during long storage. Warming in the oven will restore some of the crispness, but it is best to buy cereals as needed. Cereals that require cooking keep well if the packages are kept closed during storage.

Sugars cake as they pick up moisture from the air. If this occurs sugars can be dried out by heating in a very slow oven. Any lumps that remain can be forced through a fine sieve.

### Other Supplies

Packaged mixes have a shelf life of six months to a year. After this time quality may be impaired due to chemical changes of ingredients. However the product may be used after a year of storage.

Nonfat dry milk solids keep well in an opened package from six months to year. Once the package is opened, care must be taken to fold over the inside bag tightly after each use to protect the product from moisture.

Leavening agents such as baking powder and baking soda lose some of their effectiveness during long storage periods. If they have been exposed to excessive moisture, a new supply should be purchased. Yeast in the dry granulated form is effective for about six months. Cake yeast should be refrigerated and used quickly since it tends to dry out. Yeast packages are usually dated to indicate length of effectiveness.

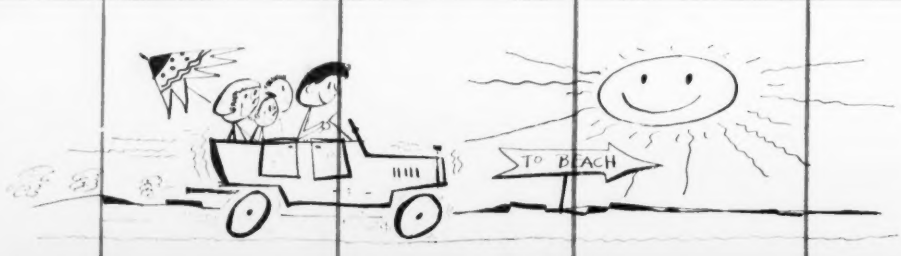
Bread should be protected by a moisture-proof wrapping and stored in a well-ventilated bread box at room temperature. Refrigeration above freezing tends to speed up staling, but inhibits the growth of mold.

Tea and coffee gradually lose flavor during prolonged storage. They should be purchased as needed and the container kept tightly closed after the seal is broken.

# menus for JUNE

By MARION CRONAN
Director, School Lunch
Brookline, Massachusetts

| MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|---|---|---|---|---|
| | Tomato Juice<br>Chicken Roll<br>Cranberry Waldorf Salad★<br>Brownie | Sliced Ham<br>Raisin Sauce<br>Scalloped Potato<br>Green Beans<br>Cornbread*<br>Blueberry Tart | Roast Lamb<br>Baked Potato<br>Peas<br>Grapefruit Salad<br>Coconut Cream Pudding | Fruit Juice<br>Macaroni and Salmon Salad<br>Asparagus Salad<br>Applesauce Bread*<br>Chocolate Nut Cake★ |
| Sausage and Corn Casserole<br>Green Salad<br>Hard Roll*<br>Strawberry Whip | Orange Juice<br>Beef Biscuit Roll<br>Green Beans<br>Whole Wheat Bread*<br>Peaches | Tomato Juice<br>Cold Meat Loaf<br>Molded Ribbon Salad<br>Raisin Bread*<br>Date Butterscotch Pudding★ | Spaghetti and Meat Balls<br>Tossed Salad<br>Roll*<br>Orange and Grapefruit Gelatin | Fruit Juice<br>Frozen Fruit Salad★<br>Egg Sandwich<br>Carrot Sticks<br>Chocolate Pudding |
| Fruit Juice<br>Cheeseburger<br>Tomato and Cucumber Salad<br>Orange Cup Cake | Open Corned Beef Sandwich on Rye<br>Beet Salad<br>Fruit Cup | Hamburg Patty<br>Mashed Potato<br>Whole Kernel Corn<br>Onion Roll*<br>Apple Raisin Pudding | Tuna Salad<br>Potato Chips<br>Fresh Vegetable Slaw<br>Apricot Upside-Down Cake | Cheese Fondue<br>Under the Sea Pear Mold<br>Celery Curls<br>Roll*<br>Strawberry Shortcake |
| American Chop Suey on Noodles<br>Green Beans<br>Vienna Bread*<br>Fruit Gelatin | Cold Cuts<br>Potato Salad<br>Cabbage and Pineapple Slaw<br>Grapefruit Sections<br>Peanut Butter Cookie | Fruit Juice<br>Chicken and Vegetable Salad Roll<br>Potato Chips<br>Vegetable Lime Mold<br>Rhubarb and Strawberry Tart | | |




These menus meet requirements of the Type A school lunch pattern. Milk is served with all meals, and butter or margarine (*) on all breads. A la carte items except for fruit, homemade brownies, and ice cream are not sold. In the high school 2 complete A lunches are offered each day. The A lunch with milk is priced at 25c. These recipes have been tested. *Recipes for starred items are on next page.*

# School Lunch Notes

THE school lunch program offers many opportunities to dramatize the values of good nutrition, health, and manners. Here are two recent examples of how this was accomplished with active participation of the students.

### In Maryland

Playwrights of a tender age told a story and taught a lesson when they dramatized a school lunch situation for an elementary school audience. The place was Langley Park Elementary School, Hyattsville, Maryland. The playwrights were fourth-graders who also made their properties and appeared as actors.

These youngsters had been discussing their cafeteria manners and the need for improvements. To put their ideas before the rest of the school they wrote a play and enlisted the help of some teachers in presenting it. Mrs. Gladys Campbell, the cafeteria manager, and Mrs. Lillian Fieghenne, her assistant, appeared in the play.

The play depicted a small girl who dreamt that the objects of the cafeteria came to life. Each "object" explained why he was important and how he should be handled. Mrs. Fieghenne and Mrs. Campbell came last and explained how they filled the trays and how important it was for the children to eat everything. At the end of the dream the child awoke and the objects left the stage. The child assured her mother that because of her dream she knew just what was expected of her in the cafeteria.

Improved manners were only one of the happy results of this dramatic effort. Another was the pleasure of putting the play together and of acting in it. A third was increased interest in their midday meal by the children who gave the play and those who watched it.

### In Massachusetts

At the Memorial School, Manchester, Massachusetts, initiative and cooperation of the school-lunch manager, Mrs. Charlotte Morong, and the kindergarten and elementary school teachers has resulted in nutrition education that is taught in a lively manner and vitalized by the school lunch program.

So successful have been the methods of teaching the small children about nutrition, that a puppet show was put on by eight youngsters under Mrs. Morong's supervision at a school lunch workshop attended by 150 managers and workers. With self-possession and technique that would have done credit to professionals, these eight small children donned fingertip puppet figures and recited the essentials of good nutrition based on the Basic 7 foods.

## ★ CRANBERRY WALDORF SALAD

**50 servings**

- ½ cup gelatin
- 1 cup cold water
- 1 3-lb. 6-oz. can jellied cranberry
- 10 tbsp. lemon juice
- 6 cups ginger ale
- 1 quart diced unpeeled apples
- 1 quart diced celery
- 1¾ cups chopped nutmeats

Soak gelatin in cold water for 5 minutes. Dissolve over boiling water. Heat jellied cranberry sauce over low heat, stirring with wire whip until smooth. Add lemon juice and ginger ale and stir. Chill until mixture starts to thicken. Fold in apples, celery and nutmeats. Pour into pans and chill until firm. Serve on crisp lettuce with dressing.

## ★ FROZEN FRUIT SALAD

**50 servings**

- 1 quart canned peaches
- 1 quart canned diced pears
- 1 quart diced apricots
- 6 tbsp. gelatin
- 1 cup fruit juice
- 2 cups cooked salad dressing
- 1 quart whipping cream
- 1 tsp. salt
- ½ tsp. paprika
- 1½ cups powdered sugar

Soak gelatin in fruit juice. Dissolve over hot water. Add melted gelatin mixture slowly to salad dressing. Whip cream and fold into mixture. Combine gelatin mixture and fruit. Season with salt, paprika, and powdered sugar. Pour into large pans. Freeze. Serve on lettuce.

## ★ BAKED DATE BUTTERSCOTCH PUDDING

**50 servings**

- 2 quarts sifted pastry flour
- 4 cups granulated sugar
- 5 tbsp. baking powder
- 2 quarts dates
- 4 cups milk
- 4 quarts boiling water
- 8 tbsp. margarine
- 2 quarts brown sugar, packed
- 2 tbsp. vanilla

Set oven at 350°F. Sift flour, granulated sugar and baking powder together. Add chopped dates and milk. Spread in four greased baking pans (12 x 18 x 2½). Combine boiling water, margarine, brown sugar, and vanilla. When margarine is melted and sugar dissolved, pour mixture over the batter. Bake 45 minutes. This pudding makes its own sauce. Serve with whipped cream.

## ★ CHOCOLATE NUT CAKE

**50 servings**

- 4¼ cups shortening
- 3½ quarts sugar
- 20 egg yolks
- 2 cups bitter chocolate, melted
- 4¼ quarts cake flour
- 1 tbsp. salt
- 4 tbsp. soda
- 1 quart water
- 1¼ quarts buttermilk
- 20 egg whites
- ¼ cup vanilla
- 2½ cups chopped nuts

Cream shortening and sugar 20 minutes at 1st speed. Add egg yolks and chocolate. Add soda to water. Add dry ingredients alternately with buttermilk and water to creamed mixture. Fold in beaten egg whites, vanilla and nuts. Bake in greased layer tins 25-30 minutes at 325-350°F.

# What's Going On in FOODS

By JACQUELINE de GOUMOIS

AUTOMATIC vending machines to increase the sale of milk have been of special interest in recent years. A one-year study of such vendors by the Maine Experiment Station shows that machine-selling increases milk sales, but is profitable only if the machine is located where many people can use it throughout the day.

In the study, vendors were installed in a factory, a high school, an office building cafeteria, and a university recreation room. From 200 to 700 persons worked near the machines, and sales of milk increased from 42 half-pints a week to 500, depending on the location of the machine.

To be successful the machines must be kept in good operating condition and replenished regularly with high-quality milk. Sales of soft drinks near the milk vendors dropped when the vendors were first installed — probably because machine-selling of milk was a novelty — but then the sales of soft drinks rose again. When chocolate milk and homogenized milk were sold side by side at the same price (10 cents a half-pint) chocolate milk outsold white milk by two to one. But total sales were greater when the two were sold together.

### New Publications

*When You Bake—with Yeast,* a handsome 32-page, color recipe booklet prepared by the makers of *Fleischmann's Yeast,* is available free to teachers, extension service workers, and 4-H club leaders. Illustrated with many how-to-do photographs, the booklet includes basic information about baking with yeast as well as interesting recipes for bread and rolls. Order your free copy from Consumer Service Department, Standard Brands, Inc., 595 Madison Avenue, New York 22, N. Y. Additional copies 25 cents each; 15 cents each in quantities of 12 or more.

*641 Tested Recipes from the Sealtest Kitchens,* a new *Sealtest* cookbook, contains recipes, meal planning and menu suggestions, and factual information about dairy products. Although special emphasis is given to new ways for using dairy products, this 256-page book is a fine general cookbook. It may be obtained from the Sealtest Consumer Service, 260 Madison Avenue, New York 16, N. Y. Price is 15 cents per copy.

### Durum Wheat Shortage

A shortage of durum wheat, resulting from a heavy rust disease and bad weather, has forced some macaroni manufacturers to alter their formulas to use partly another grade of hard wheat. Durum or semolina wheat, transparent and yellow in color, is an important ingredient in Italian-style macaroni products, contributing to their characteristically firm texture.

### Rabbit Cookery

Domestic rabbit, ready-to-cook, fresh or frozen is increasingly available in meat markets the year round. It is a mild-flavored white meat, quite different from the gamey wild rabbit.

The young "fryer" rabbits, ranging in weight from 1½ to 2 pounds, may be fried successfully in much the same way as chicken. Larger "roaster" rabbits, weighing more than 4 pounds, need slow, moist cooking to insure tenderness.

**Easy-to-make creamed soups using *Pream*, the powdered cream that needs no refrigeration—add two tablespoons *Pream* to canned tomato soup just before serving for richness of flavor.**

As a guide to rabbit cookery, the USDA has prepared a 15-page booklet, *Ways to Cook Rabbit,* which includes general cooking directions and recipes. Single copies may be obtained free from: Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

### Food in the News

• Americans are drinking over three million more cups of tea a day than they were a year ago, according to the U. S. Board of Tea Experts, who met recently to again set the standards for the tea which is admitted into the United States. Tea imports for 1953 jumped 11 per cent, and the experts give credit for the increased popularity to homemakers who have learned to brew it properly.

• Among the new foods developed for the armed services are small beef sausages, frozen cooked boneless turkey, and dehydrated cream of onion, cream of potato, and lima bean soups.

• The American Can Company has introduced its new No. ¼ oblong, sanitary style sardine can which features a slotted key that fits into a lip on the can top. The new can, which is easily opened, is an improvement over the Norwegian-developed container of similar type.

• The growing recognition of the importance of the small family has caused the H. J. Heinz Company to introduce a new line of single-serving canned main dishes including stews, chop suey, beef goulash, and others. Now come two more additions to the line, Spanish rice, and macaroni creole. All these are packed in 8½ ounce cans.

• *Sautay Onion,* a new seasoning developed by the Gentry Division, Consolidated Foods Corp., imparts the flavor of fried or sautéed onion to any food to which it is added. A coarsely ground powder, light tan in color, it contains no salt, filler, or artificial flavoring.

## Modern Food Processing

*(Continued from page 28)*

at present intensely interested in two new techniques that show great promise—the utilization of high frequency sound waves and beta and gamma rays in food processing. Both techniques involve radical departures from the conventional processing procedures which usually employ heat. Ultrasonic waves can precipitate and destroy suspensions of bacteria. Research is now in progress to determine whether such energy can be employed to pasteurize milk and sterilize foods.

Results along these lines have not as yet been too successful. However, ultrasonic waves are already performing important roles on the food production line. Such energy has been used to homogenize and emulsify, to extract hops in the brew kettle, to age wines, and to precipitate solids from liquids. The versatility of such energy insures its ultimate adoption in the food plant of the future.

Numerous ranges of the electromagnetic spectrum have been employed by the food processor in the past. Infra-red radiation has been used for drying, and ultra-violet light has long been a successful bactericidal agent. Now the food processor is interested in the use of beta or cathode rays and gamma or X-rays for sterilizing foods. Pioneer research in this field has been conducted in the Department of Food Technology at the Massachusetts Institute of Technology. This type of sterilization is often called "cold" sterilization because no heat is employed. Sterilization consists of exposing the food to a controlled beam or atmosphere of radiation.

In the case of cathode ray sterilization, electrons are accelerated to energies of two to five million volts by means of a Van de Graaff Electrostatic Accelerator and directed to the food product which is on a conveyor belt. This process is continuous. Sterilization takes place in a matter of seconds. Unfortunately, the depth of penetration of this type of radiation is at best only one inch.

On the other hand, gamma or X-rays are very penetrating, but the time required for sterilization may be as high as one half hour. However larger sources of energy with capacity for faster sterilization are now in the making. In the meantime, much fundamental research can be conducted, and gamma rays can be employed to check results obtained with the more efficient cathode ray machines.

Complete sterilization of foods by ionizing radiations has already been accomplished. However, changes in color, texture, flavor, and odor frequently accompany the irradiation process. These side effects can often be minimized by irradiating the food in the frozen state, in an inert atmosphere, or by irradiating the food in the presence of protective substances. These factors are now being actively investigated in our laboratories.

Cathode rays have been successfully employed to extend the shelf life of prepackaged fresh foods at room temperatures by applying a reduced radiation treatment on the surface only of the food. The dose required for surface sterilization is low enough to prevent undesirable side effects. It is still premature to predict what effects "cold" sterilization will have upon food production, processing, and distribution, for it is still in the developmental stage and presents many problems which must be solved. However, it is an intriguing concept which someday may change our entire food habits.

*(Concluded on page 45)*

Good News for Dieters...

Here's a non-caloric sweetener you can really cook with!

(In **any** food, at **any** temperature)

405129

A Party Sponge Cake made with SUCARYL—just one of the low-calorie dishes from the new SUCARYL Recipe Booklet.*

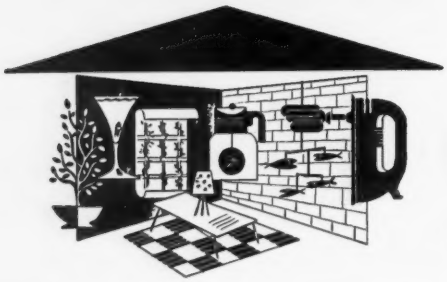
SUCARYL'S new! It's not saccharin, nor is it related to any other synthetic sweetener, old or new. It's sugar-sweet and stays that way—in any cooking process. *And it won't turn bitter.* No calories at all in SUCARYL. It's wonderful for sugar-cautious dieters! Abbott

Sucaryl

(Cyclamate, Abbott)

THE NEW NON-FATTENING SWEETENER

*See coupon section*



# What's Going On in the HOME

By FLORENCE STASSEN

HOME cooking may have a different connotation in the future if the new Tappan electronic range for the home becomes standard equipment. Developed by the Tappan Stove Company in conjunction with the Raytheon Manufacturing Company, these electronic ranges have been placed in kitchens of family homes on an experimental basis. However, limited production and the high cost of initial units will restrict the market for these ranges for some time to come. The first few units will be available in 1955 with increased production expected later on.

By the electronic cooking method, food is warmed from within and the cooking container itself is not heated. Timetables will have to be radically changed, for a cake is said to bake in 3 minutes in a "cold oven," cheese will melt in 5 seconds, a baked potato will be ready to eat in 5 minutes, and a 16-pound stuffed turkey will require only an hour and 15 minutes of cooking.

### Streamlined Mop

Fluffy nylon yarn and a flexible swivel socket are the features of the new O-Cedar dust mop. The swivel socket enables the user to turn the mop at all angles to dust a wider path, to move in and out of tight places and to clean under low furniture. The fluffy nylon yarn pad, which is available in blue or white, attracts and holds dust readily. It may be easily removed for quick washing and drying.

### Silver Exhibit

The Towle Gallery shown on this page was established by Towle Silversmiths to exhibit the "Story of Sterling." It shows in graphic display the development of this precious metal from the earliest days of American silversmithing to its present day status. Included in display are silver pieces made by six generations of Moultons, and many pieces of historic importance such as bowls, porringers, pitchers, tankards. Early craft implements are also shown. The gallery which is located in Newburyport, Massachusetts, is open Monday through Friday every week. Home economics teachers and students are invited to visit the gallery to see this practical demonstration of the history, use, and care of fine silver.

### New Styling

The *Empire* is the newest style model of the Simmon's Hide-A-Bed line. Upholstered in specially woven antique satin fabric, the sofa bed has semi-attached spring cushions at the back and seating cushions of foam rubber. Round bolsters have golden thread tassels looped through the ends. Mahogany with crosspieces and rosettes of brass form the decorations on the sides of the sofa and complete the empire styling.

### Combination Appliance

A new gas appliance has been introduced by Bendix. It is a combination laundry unit that dries as well as washes in one continuous automatic operation. In appearance the new gas *Duomatic* resembles the electric model which was introduced to the retail market a year ago. However its drying method uses low heat and high air flow. Room air is drawn into the unit, heated, passed over the clothes, and exhausted outdoors. In the electric *Duomatic* the drying method uses a sealed system with the same air being used over again.

The gas *Duomatic* is only 36 inches wide. It will wash and dry an 8-pound load in just about an hour. The unit may also be used separately as either an automatic washer or dryer. It will be sold at the approximate retail price of $540.

### Product Briefs

► A new cutting board has a convenient opening in one corner which permits chopped food to be swept into a dish placed below the opening. It is made by Charlotte Wood Products, Charlotte, Michigan.

► Chipped ice is instantly ready with a type of ice cube tray that is divided into sixty slender slots. The tray is flexible and when it is twisted the ice chips break and tumble out in small pieces.

► A portable meat grinder and food chopper called the Grind-O-Mat has suction cup feet which grip and hold to any surface without scratching.

One of the interesting silverware exhibits at the Towle Gallery, Newburyport, Mass.

# NEW...THE HANDY HOUSECLEANING TIPS PRESENTED AT THE E.W.R.T. WORKSHOP!

**SO MANY PEOPLE** have asked for copies of the complete report on easier housecleaning presented at the Electrical Women's Round Table Workshop in Chicago in February that we have decided to make it available to home economists who were not able to attend.

This collection of up-to-date cleaning tips was accumulated through the cooperation of experts in various fields—manufacturers of rugs and carpets, vacuum cleaners and other appliances for home care, editors of women's magazines, etc.

Write direct to me for a free copy of "Housecleaning the Effortless Way" or use the coupon on page 31.

If your vacation plans bring you anywhere near Racine, do plan to drop in and visit with us. And we hope to see you at the AHEA Convention. Our booth will be # 69–70.

Lucile Bush

Consumer Education Director

## JOHNSON'S WAX

*Racine, Wisconsin*

# What's Going On in TEXTILES

By DOROTHY S. DAY

SALES people can help, and labels can help when a woman is shopping for a coat or suit that will give lasting service. The more the shopper knows about construction and materials, from high-grade merchandise to low, the better her chance for getting a really good buy at the price she can pay.

To help the consumer learn the facts, Clarice L. Scott of the home economics branch in the Department of Agricultural Research Service has written a new booklet. The author prepared this guide, which includes a check list of strategic points on the fitting of coats and suits and a chart on fibers and fabrics, after she observed suits being manufactured and took suits apart for comparative studies.

She points out that a woman shopper can benefit two ways by gaining knowledge of values. She can plan her purchases more systematically and be more confident that the coat or suit she selects has the qualities most important to her. Single copies of this book, *Buying Women's Coats and Suits*, Home and Garden Bulletin No. 31 may be obtained free from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

### Storage Tip

Whether you are an experienced home sewer or one who only reverts to needle and thread when absolutely necessary, you should consider using plastic food storage boxes for your sewing aids. The many sizes and shapes of these transparent boxes can be readily adapted to accommodate various types of sewing equipment and notions and one can see at a glance what is inside.

### Novel Device

The most fascinating gimmick I have seen in a long time is the *Knit King Hand Knitter*. It is claimed that the 43-inch unit will produce hand-knitted fabric at the rate of 4000 stitches a minute. Setting this machine for the desired number of stitches and casting on seems quite simple and is graphically illustrated in the instruction booklet. From there on the knitting progresses quickly as one hand feeds the yarn over the needles and the other moves a handle across the machine. Increasing, decreasing, and intricate stitches can all be accomplished on the machine. All one needs is a ball of wool and $149.45 which is what this amazing gadget costs. The Knit King Corporation, 250 Park Avenue, New York City, will send you a booklet.

### Magic Zipper

*Talon* announces a new zipper with a magic tab which is the result of 12 years of research. When fabric or thread jam the slider or catch in zipper teeth, the tab is flipped up and pressed gently so that the slider rocks back from its position on the chain to release the fabric. The new slider cannot come off the chain or mesh incorrectly, and is simple and swift in operation.

### Industrial Aid

A new instrument for predicting the tendency of raw cotton to form neps has been developed by the Department of Textile Research at North Carolina State College. Neps, which are minute tangled masses of fiber formed during processing, are major contributors to poor fabric quality especially in fine goods and pastel-dyed fabrics.

Called the Neptometer, from Nep Potential Meter, the new instrument will be used to classify cottons according to their nepping tendency. It will help manufacturers to select cottons best suited for the particular type of goods they plan to produce.

**This playhouse can be made from a single-size sheet, bias tape and eyelet trim. For instructions write to Cannon Mills, Inc., 70 Worth Street, New York.**

### Data on Home Sewers

A survey conducted by McCall's Patterns shows that 65 per cent of a group of 5,682 women interviewed consider serviceability as the leading factor in fabrics they purchase for home sewing. Color-fastness, shrinkage control, and washability were listed as prime considerations of serviceability. Color, the way the fabric looks, its price, the way it feels, and the brand name were other factors listed.

Other interesting results showed that women who sew are predominately between the ages of 20 and 39. They average 21 garments a year, and 75 per cent of the women sew because they like to. Cotton fabrics are the most popular, but only 33 per cent choose wool-type fabrics and 22 per cent choose silk-like textiles.

### Helpful Aids

Dacron sewing thread for sewing nylon, Orlon, or Dacron is stretch-resistant and is said to eliminate annoying puckers. Made by Coats and Clark, Inc., in 18 colors as well as in black and white.

The 1954 Idea Book for Sewing with Cotton Bags gives hints on making wearing apparel, household accessories, gifts, and toys. Write to the National Cotton Council, Box 76, Memphis, Tennessee.

A spot eraser in the form of a chalk-like stick is said to remove grease, oil, and dirt stains from garments without leaving a ring. Called the Janie Spot Eraser, it is available in handy pocket and home sizes at notion counters.

Fabrics treated with crease-resistant finishes retain their qualities best when washed in warm, not hot, water. Excessively hot water may remove some of the finish after a number of washings.

# How to teach about new "controlled suds" washing . . .

## *(with or without an automatic washer)*

**New teaching kit makes it simple and easy to demonstrate why *all*'s controlled suds outwash thick, heavy suds.**

LEADING HOME ECONOMISTS, washing machine manufacturers and important laundry experts tell us there's a new and better way to wash clothes: Use a "controlled suds" detergent—one that makes *practically no suds.*

That's why *all* . . . the controlled suds detergent created especially for automatic washers . . . can make a real contribution to home laundry classes. With a minimum of props . . . even without an automatic washer . . . you can show your girls how it is possible for *all,* with almost no suds, to outwash detergents that make thick, heavy suds.

*all* does such a remarkable job that it is *prescribed* for best results by the men who make automatic washers. *all* can do this because it lets an automatic work the way it was designed to work. It can wash and rinse at top efficiency because there are no thick, heavy suds to choke up the machine and interfere with the free movement of clothes.

### Get free teaching kit

Simple ways to demonstrate what *all*'s controlled suds can do are included in a comprehensive Teaching Kit which has just been published. See special offer below.

**FREE! To help you teach modern home laundering**

INTRODUCTORY TEACHING KIT contains practical outlines for lessons, stain removal chart, a copy of a student booklet you may order free in quantities. Kit also contains information and order form for the biggest manual in the home laundry field . . . the "all about laundering" Reference Manual . . . approved and used by 8,276 teachers. Everything you need to know is in the Manual, including *pages* of detailed information about the washing of miracle fabrics, of woolens, etc.

**Use coupon on page 33 to order Introductory Teaching Kit**

## Make A Quick And Easy Sweater Or Hat

The fad of knitting sweaters and other fashion accessories from heavy cotton yarns is sweeping high schools and colleges. These yarns are soft and bulky, work up quickly and inexpensively . . . results are smart and colorful for many different uses and occasions. Directions are available at notion and needlecraft counters.

Bulletin No. 4—Luxury at Modest Cost (Crochet and Knitting) contains instructions for knitting quickly the smart sweater shown above.

## Send For Free Teaching Aids

Illustrated bulletins giving practical information on threads and yarns and their uses are available without cost for your classes.

## Fill In Coupon And Mail Today

*This offer good in U. S. A. only*

**Educational Bureau**
**The American Thread Company**
**260 West Broadway, New York 13, N. Y.**

Please send me free____copies of each of the bulletins checked:

Bulletin #1 ☐ The Right Thread for the Right Purpose
Bulletin #2 ☐ The Magic of Color in Your Wardrobe
Bulletin #3 ☐ Styles for Little Moderns
Bulletin #4 ☐ Luxury at Modest Cost (Crochet and Knitting)

Name_____

School_____

Street Address_____

City_____ Zone____ State_____


### Fitting Problems

*(Continued from page 13)*

terns were identical in the four patterns. However, it has already been shown that the actual patterns have wide variations in front widths.

Chart 2 shows that the four patterns differ somewhat in their stated bodice lengths. Comparison of these figures reveals that two of the patterns increase ¼ inch from size to size; another increases ⅜ inch from size to size; and the fourth increases ⅜ inch except between two of the sizes where the increase is ¼ inch. The maximum difference in bodice lengths of the four patterns for one size varies from ¼ to ½ inch.

Chart 3 shows the stated finished dress lengths. The maximum difference in dress lengths per size varies from 1⅜ to 2 inches. Since this maximum difference is greater than the maximum differences of the bodice back lengths it is apparent that the differences in skirt lengths are greater than that of the bodices.

It cannot be said that any one of these four commercial patterns is consistently longer in all sizes. The charts show variations from size to size. For example, pattern A is the longest in sizes 14 and 16, but is shorter than pattern B in sizes 10 and 12.

These comparisons point to several conclusions:

1. Commercial patterns for bodices vary in actual width although they claim identical measurements for bust, waist, and hip. Bodice backs vary less than fronts.

2. Length of bodice patterns varies from ¼ to ½ inch. Length of dress varies from 1⅜ to 2 inches.

3. A need for cooperation of producers of commercial patterns to insure less variability in commercial patterns is indicated.

4. The pattern user should know her own figure type as well as body measurements, and buy that type of pattern.

5. Patterns should be carefully pin-fitted before cutting the material because of pattern variation.

6. Patterns of suitable style may have extra length added to the bodice to compensate for rapid growth. This problem may be avoided by limiting students to making "separates."

7. And, finally, these comparisons indicate the need for teachers to know the variability of patterns in order to help their students make wise choices.

**By Frances F. Mauck**

TEEN-AGERS here express displeasure at the way the side zipper closing is finished on ready-made evening dresses. Usually in these garments the under-bodice and slip and the over-layers of tulle or net are stitched into the seam where the zipper is attached. We like this method of finishing better: Include the under bodice and the tulle in the zipper closing from the upper end to the waistline seam. From the waistline down to the lower end of the zipper, stitch into the seam only the underslip of taffeta. Leave the seam edges of the tulle free at the waistline. These seam edges will lap sufficiently to form a closing. The tulle layers then flare out from the waistline as they should.

❖

**A stiff tape measure has some specific uses. One of them is in finding the position of a normal neckline and measuring it. Place the tape loosely around the neck, gently tap it down until the curve of the neck stops it, then draw it close but not tight to the neck. The lower edge of the tape gives both the position of the neckline and its measurement.**

❖

Another use of the stiff tape line is in measuring curves. Use both hands to place the edge of the tape on the curve, hold tape vertically, let the fingers creep along the tape inch by inch as it is laid along the curve. If you have changed an armscye line and fear that the sleeve may not fit in nicely, measure both armscye and sleeve and make necessary adjustments of the size of one or the other.

❖

**From Jessie Caplin in Carmel, California, comes another suggestion. Sometimes you want to use two or three soft-spun threads as one thread, as when making a decorative stitch. If, for example, you should want to use three, thread two of them through a needle. Then run needle and thread in and out through the third thread as often as necessary to give the form of a single three-ply thread.**

## Modern Food Processing

*(Continued from page 39)*

In conclusion, I should like to say a few words about new types of food we may be using soon. The food processor is already investigating the production of proteins from the sulfite liquors of wood pulp mills.

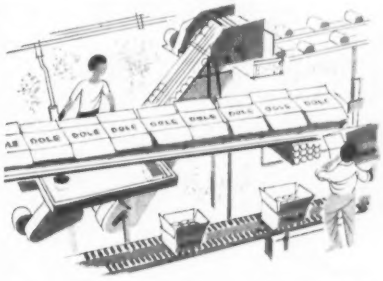
More intriguing is the production of algae as a source of food. Pilot plants throughout the world have already demonstrated that this is no longer an idle dream, and algae culture may become an important and efficient source of good food protein. It has already been pointed out that the entire *Chlorella pyrenoidosa* organism is potentially edible, whereas in traditional crops much energy is wasted as supporting structures, leaves, stalk, and roots. The total population of the world could be fed 30 grams of this protein per day from an output of one million acres of algae culture—an area slightly larger than Rhode Island. Food algae has been used in animal feeding tests with some encouraging results.

The use of algae as human food in undeveloped areas merits much attention, for here is a potential means of feeding with some degree of adequacy people in areas where malnutrition and undernutrition are prevalent. However, many social, economic, and national factors would have to be considered. Nevertheless, it does offer a great deal of "food for thought." We should also bear in mind that other varieties of algae have been consumed as human food in many coastal areas of the world, especially in Eastern Asia. Again, the Irish moss extractive has already replaced gelatin as a stabilizer in such food items as ice cream.

In view of the progress made in recent years by food processors who have done much to introduce convenience into food preparation, there has been much speculation regarding the use of pills as a means of receiving one's daily nutritive requirements. This at the moment does not appear to be a serious threat. Even if it were imminently possible, the size of the pills would of necessity have to approach that of a grapefruit. I can perhaps best summarize this situation by repeating a remark made a decade ago by one of my colleagues who, when asked to comment on the merits of a certain concentrated food product, replied, "A person could live on this food much longer than he would care to."

Aloha— Today I said goodby for this trip to my friends in Hawaii. And like every traveler who leaves this paradise, I was strongly aware of the mixture of great sadness and great happiness that a farewell "Aloha" brings.

This last day was packed with activity! This morning I went over to the DOLE cannery to say Aloha to friends there. One of the foremen told me that the DOLE "line" was now breaking records. They can pack more than 4,000 cans of pineapple in a single *minute!*



I had lunch at a home in Manoa Valley with some students from the University of Hawaii's Home Economics Department. My hostess announced that the salad was named in my honor, and would henceforth be known as "Patricia's Salad." Never did an honor "taste" so good! But—try it yourself:

**PATRICIA'S SALAD**

- 1 3-ounce package soft cream cheese
- ¼ cup mayonnaise
- 2 tablespoons pineapple syrup
- 1 banana, sliced
- 4 maraschino cherries, cut in fourths
- ¼ cup nuts, chopped
- 8 DOLE Pineapple Spears, drained

Mix cream cheese, mayonnaise and pineapple syrup together until smooth. Fold in banana slices, cherries, and nuts. On each plate arrange 2 drained pineapple spears on a bed of crisp greens; pile cheese-fruit mixture to one side. You'll need no extra salad dressing. Makes 4 servings.

While being served, I noticed a magnificent black lacquer tray holding the individual salad servings—and I mentioned how lovely it was. Later at the airport, to my great embarrassment—but even greater pleasure—the identical tray was presented to me as an Aloha gift! That is the way Hawaii is...

Minutes later, I looked down and said goodby to Oahu, the "Aloha Island"—and to the others I could not see: Hawaii, the "Orchid Island;" Maui, the "Valley Island;" Kauai, the "Garden Island;" and DOLE's own "Pineapple Island"—Lanai. It had been a *wonderful* trip!

See you at the Convention,

Patricia Collier,

DOLE Home Economist

### Demonstration Techniques

*(Continued from page 10)*

holiday theme and showed how to make Christmas decorations which would be easy for a busy homemaker to make.

Demonstrations are scheduled early in the semester so that each girl is able to plan accordingly. All the 15-minute demonstrations must be completed before the 30-minute ones are started. Working under such a plan enables students to start on the easiest demonstration and gradually work up to the more complicated procedures.

The class meets twice a week for two hours each period and has one one-hour lecture period each week. Demonstrations are planned so that the group criticizes and discusses after each one is completed. This gives every girl a thorough understanding of the techniques she must master and also of those which she has under control.

Before each group of demonstrations begin, Miss Allgood gives a sample demonstration to show the class just what is required and what can be included in a certain amount of time. Each student plans her own demonstrations and has them approved by the instructor at least two weeks ahead of time. The student must have a complete outline of her time sequence and must show what she intends to do and say throughout the demonstration. She must have a food order made out and submitted to the school stewardess a week before her practice session and again before her class demonstration.

Practice demonstrations help students to work out problems which may occur in the actual performance and to perfect their timing. They also give a girl an idea of at which points she will have to be prepared to talk a great deal and when she will have to work fast with little chatter. In early demonstrations almost every student finds that she just does not have enough to say. Many times a practice session will come out exactly right and then the class demonstration will be too short. Students learn to have a short extra operation ready in case they find themselves with 5 or 10 minutes to fill before concluding the demonstration.

Just before each laboratory period, the student in charge for the day will describe the kind of group and age before which the demonstration is to be given. The class must think of and ask questions that might be asked by a typical audience. When the demonstration is completed each student fills out a criticism sheet which scores the demonstrator on appearance, self confidence and enthusiasm, voice, and objectionable mannerisms. The demonstration is scored on: accuracy, interest, appropriateness of subject matter, introduction, ability of audience to see and hear, clutter, technique, timing and summary of presentation, and arrangement of display. On this same sheet students make suggestions for improving future demonstrations.

Penn State students have an ample supply of equipment available for use in their demonstrations. The lecture demonstration laboratory and adjoining kitchen are equipped with almost every type of modern appliance. If a student needs a piece of equipment which is not available in the demonstration laboratory it may be borrowed from other foods and equipment labs in the home economics building.

In the equipment laboratory can be found recent models of gas and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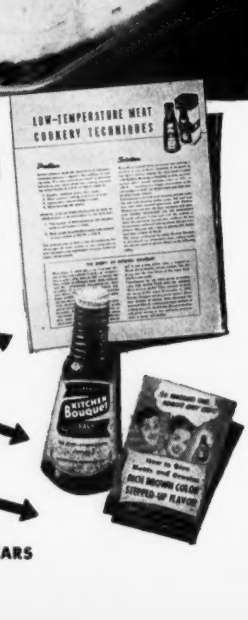


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electric ranges and refrigerators, and an electric freezer. Smaller equipment includes mixers, coffeemakers, deep-fat fryers, and toasters. There is also a wide variety of cooking utensils which may be used by all students.

Each student's final demonstration is one-hour long and must be planned and carried out by the student with another student as an assistant. The first girl in turn will act as assistant for the other when she gives her hour program. Although few demonstrators use assistants, it is good to know what duties can be assigned to her.

The hour demonstration is the crucial time for it is this which shows how much a girl has learned and improved throughout the semester. As she stands before her fellow students she knows that before her is the most critical audience she will ever have to face.

No real audience will see every technique used, but those taking the course catch all the errors the demonstrator makes. They know it is wrong if she crosses hands in reaching for an article on her tray, or if she speaks when moving from table to range or with her back to the audience. She feels their eyes on her back when she forgets and opens an oven door without a hot pad in her hand or forgets to pull the oven rack out before placing a baking dish on it. However, fellow students not only criticize candidly but they also give credit when a girl has done her demonstration well or has improved her techniques considerably over previous performances.

Students take comfort in the fact that they are not the only ones who make mistakes. Even the most seasoned demonstrators may have failures on occasion, but then they try to give a good reason why something did not turn out the way it was supposed to in the recipe. The instructor, Miss Allgood, utilizes some of her past experiences as examples. She remembers the time when she was supposed to make piecrust and show how easy a mix can be. Something went wrong and too much water was added and the dough was impossible to roll. Luckily her assistant was alert to the situation and came in with another bowl with the mix already in it saying that she had made a mistake and put biscuit mix in the first bowl. Of course she had never made the mistake. This was an example of a case where an alert assistant is very helpful.

This course serves as a proving ground for a girl who hopes to do demonstration work. She may never lose all her nervousness, but she will know how to give a demonstration which will make an impression and create a favorable reaction.

### Booklets Worth Knowing About

*Easy-to-Make Bread and Rolls,* 15-page Cornell Extension Bulletin 888, by Lola T. Dudgeon and Mildred Dunn. Step-by-step directions for making bread and rolls. Write to Mailing Room, New York State College of Agriculture, Ithaca, N. Y. Price 5 cents per copy.

*Quick Trick Cookery,* 48-page American Can booklet, contains 28 menus which can be prepared in less than 50 minutes, many recipes, and new ideas for serving canned foods. Free from American Can Co., Home Economics Section, 100 Park Avenue, New York 17, N. Y.

*Picture Pies,* 31-page Armour booklet shows how to make pies, 10c per copy. Write to Armour and Company, Consumer Service, Union Stock Yards, Chicago 9, Ill.

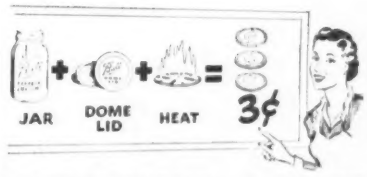
FOOD PRESERVATION TOPICS

by Lucina Ball

"ANY OLD JAR" won't give sure home-canning results. Ball Mason Jars are designed *especially* for home canning, with smooth top edge that doesn't cut rubber seal, shaped with rounded corners for extra strength, non-slip sure-grip ribs. These jars give students the confidence that comes with using the correct container.

LET THE GIRLS TRY the two most popular types of home-canning caps—the Ball Dome two-piece and the Ball Zinc one-piece. Also, if available in your section, let them use the Ideal All-Glass Jar with wire clamp. All offer the same undeviating quality which experienced home canners have always identified with the name Ball.

SEEING THE SEAL is quick way to test jars when using Ball DOME Lids. As jar cools, Dome *clicks* down; then a glance or touch and you know it's sealed. One demonstration teaches the girls this simple test. They'll like the cream-white enamel lining on DOME Lids, too—so clean, so safe!




WITH ECONOMY A BY-WORD TODAY, the important savings provided by home canning will make your food preservation classes of greater value than ever, to students *and* their families! Reliable surveys indicate home canning costs only approximately 3¢ a quart for jar, lid and heat! (Based on average jar life estimated at 8 years.)

NOTHING ATTRACTS MORE ATTENTION than a display of home-canned fruits and vegetables at school fairs, or on P.T.A. nights. And nothing gives students more pride of accomplishment than the skill exhibited in the home canning they show.

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**By MARY BROWN**

IN despair over your hair? Here are a few tricks that should help to make your hair lovely.

► Have you baby-fine hair? If you pin curl your hair in the upped way you will find it not only leaves the hair more manageable, but gives it added body. Pull each strand straight up from the scalp and wind down toward the face. This is a trick Hollywood stars use.

► Another way to pin curl hair is by pulling the strand down and winding it toward the face. This is best for the down-type hairdo such as the page boy.

► And of course there is the Italian cut to be set. The stand-up pin curl is used for this one. It is made by rolling a small lock of hair from end toward scalp to form a circlet of hair. Then slip the hairpin or bobby pin through the circlet.

► Do you yearn for a curly bang while wearing a straight one? Just take a piece of cotton, finger length, and wind your bang around it catching it at each end with a bobby pin. When you brush out your hair you will be surprised by the soft fluffy bang this achieves.

► Do you give so much thought to your shampoo soaping that you forget to give your hair the three or four rinses that make the difference between shiny clean hair and a flaky scalp? It is a good idea to gradually make the water colder so that your scalp tingles by the time you are ready to dry it. Remember healthy hair frequently means healthy skin, too.

► Do you wear glasses? Usually a soft hairdo is the most becoming, so experiment with different arrangements. Softly curled edges frame the face and make glasses recessive. Sharp severe hair styles make glasses stand out in bold outline, losing the lovely line and color of your eyes.

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